Paintings by Early Americans

The Rock Art of Texas Indians. Paintings by FORREST KIRKLAND, text by W. W. NEWCOMB, JR. University of Texas Press, Austin, 1967. xiv + 239 pp.; 160 plates. $12.50.

Rock Art of the American Indian. Written and illustrated by CAMPBELL GRANT. Crowell, New York, 1967. xiv + 178 pp., illus. $12.95.

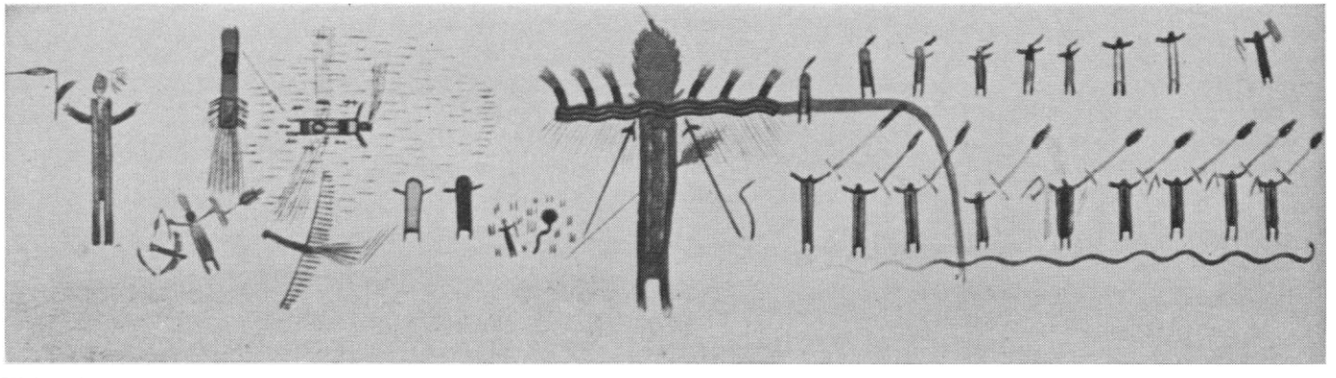
In 1934, Forrest and Lula Kirkland became entranced with a long series of Indian pictographs near Paint Rock in west central Texas. They set about to reproduce these in watercolor as accurately as possible; and having finished this task, they began to copy other pictographs in Texas, not only for their inherent interest to students of "primitive" art and religious symbolism, but to place them on record before they were lost forever as a result of vandalism. During the next eight years, until Forrest Kirkland's death in 1942, they copied thousands of pictographs (and some petroglyphs) in many parts of Texas, among them the Big Bend area where the Rio Grande and Pecos River join in deep canyons, the vicinity of Hueco Tanks near El Paso, and the Canadian River valley in the Texas Panhandle. Their copies represent a total of some 80 localities, many of them in nearly inaccessible canyons. This was a work of love, and its results are astonishing both in quantity and in quality. Some of the most interesting paintings have been published in much reduced size and only in black-and-white. Of the 80 localities, 43 are in Val Verde County, Texas, loosely included in the "Big Bend area" but actually in an area that is better called the Pecos River or Lower Pecos River area, where this river joins the Rio Grande in a maze of eroded canyons and tributaries; the pictographic art of this area must surely be included among the most complex and fruitful in the world.

William W. Newcomb, director of the Texas Memorial Museum and professor of anthropology at the University of Texas, has now collected the Kirkland diaries and watercolors, with ethnographic data on the same regions, into a fascinating book. The size of the volume, 9 by 12 inches, allows more space for reproducing the copies and adding pertinent comments on the same pages. The technical production of this book is beyond compare, and the book is (I would think) worth two or three times the quoted price. The count of 160 plates is somewhat short, for many plates reproduce several pictographic panels, and there are many excellent unnumbered field photographs showing shelters and caves in addition to environmental settings.

Newcomb's first chapter describes the Kirkland "team" and how they worked, with excerpts from their carefully kept diary. In chapter 2, "An introduction to rock art," Newcomb outlines some purposes of such art, the materials and techniques used (not just in Texas), and the like. Chapter 3, "A survey of the world's rock art," deals with western Europe (mainly Franco-Cantabrian cave art); the Spanish Levant (where the rock art is found in shallow rock shelters and is like that of northern Africa); Africa, from the paintings of the Saharan regions to Bushman art in the south; Australia; South and Middle America (where Newcomb says that there is very little cave art in most of the region, a lack I would explain as being due to the use of many other media such as the carvings on stelae, temple walls, and the like, paintings on walls, and ceramics); and North America, from the west coast to the eastern woodlands. This brief survey is interesting in many ways but has no particular connection with the Texas material except with respect to techniques and (perhaps) the purposes of such art among "primitive" peoples around the world. The remaining chapters are on the regions in which the Kirklands worked.

It would be futile to attempt even a partial list of the many hundreds of specific elements found in the Texas rock art. By far the richest array of motifs is found (in many cases crammed together on the back walls of rock-shelters), and in many different colors, in the Pecos River–Rio Grande junction area. Interestingly, the best of these are found in an archeological context dating something like 2000 to 7000 years ago; the latest ones, in protohistoric and historic times, are simple and crudely executed. In the older paintings (Newcomb's "Pecos River style"), highly conventionalized human figures appear repeatedly as the dominant motif; they wear various costumes and hold or wear a variety of objects undoubtedly of religious and magical significance. The atlatl and "dart" are clearly present in the older and richer paintings, whereas the bow and arrow do not appear. In the later paintings (in the Christian era, presumably) the reverse is true; this agrees with archeological findings. Newcomb's use of the term *shaman* for these weird but undoubtedly human figures is probably well justified, but I suspect there is more to this, as well as to the countless figurations of animals, plants, serpents, insects, and geometric motifs. In the El Paso area, numerous paintings agree very well with Puebloan Indian culture, as one would expect.

Like the book by Kirkland and New-



Kirkand's copy of a rock painting found "in a small shelter in a deep canyon that empties into the Pecos River northeast of Langtry [Texas]." The figures surrounding the central figure, or "shaman," may be dancers or (left) "prone enemies surrounded by stylized projectile points." The original rock painting measures approximately 7 by 28 feet.

comb, *Rock Art of the American Indian* is an enormously fascinating work, containing a very large number of illustrations in black-and-white and in color, and both line drawings and photographs. These are unnumbered and I have not tried to count them. The coverage includes both pictographs (paintings) and petroglyphs (produced by carving or pecking or both) in many parts of North America north of Mexico, and some from the northern Mexican states. Middle America, Central America, and all of South America are excluded; hence the title of the book is somewhat misleading. Still, the coverage is about all that one can expect in a single book kept to a reasonable price.

No one can really treat so vast a subject as the rock art even of "North America" in a single book. Grant himself estimates that there are "possibly some 15,000 sites" in the areas treated, and I would guess that there are at least that many. Therefore one must select some of the more spectacular ones, as Grant has done, and further, select some of those in the most immediate danger of destruction by weathering or vandalism.

Grant is one of those artists, few in number and of intense dedication, who have spent untold labor in copying this form of American Indian art and religious symbolism, in the face of increasing vandalism in the age of the jeep and motorbike. Unlike Kirkland, he has reproduced many figurations in brilliant color against a neutral background of gold or brownish gold instead of the natural rock colors of the caves and rock-shelters. One can hardly argue about this, however, so long as the actual figurations are done with complete accuracy in dimensions and form: immediate *salvage*, in the form of artist's reproductions and photographs, is the main thing; interpretation (if possible, which is not often) can wait.

One thing puzzles me greatly. Grant, in his survey, mentions a few of the thousands of pictographs in Texas, but his selections are all from protohistoric or historic times (including men on horseback) and he has none whatever from the incredibly rich material, several thousand years old, to be found in the Rio Grande–Pecos River junction area. His selections show only some clumsy drawings characteristic of the latest style in west central and western (Trans-Pecos) sections, probably done by Lipan and Comanche wanderers. Conversely, Newcomb discusses rock art on several continents but says nothing about the very rich material in Santa Barbara and Ventura counties in California. It is as though neither man is aware of the most fabulous rock art in another part of North America. There are some very close resemblances in symbolism between the art of the Santa Barbara and the Pecos River areas that need to be studied. (I do not know why the art of these two areas, about a thousand miles apart and with nothing similar in the intervening area, shows such similarities; this is a prime problem for students of pictographic art.) One last point is that in the book under review Grant pays very little attention to the art of the Santa Barbara-Ventura area, which he calls "Chumash" after the historic inhabitants of the area. He has treated this in other publications (listed in the bibliography he provides), and I would suggest that the reader see *Natural History* (June–July 1964) as a convenient source for this "Chumash" art, especially that at Painted Cave in the hills behind Santa Barbara. The deficiencies I have mentioned do not detract too much from the overall excellence of the books, both of which are absolutely necessary for any serious student of pictographic art.

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Cell Transplantation

Radiation Chimaeras. D. W. VAN BEKKUM and M. J. DE VRIES. Academic Press, New York, 1967. x + 277 pp., illus. $20.

The term "radiation chimera" was proposed by C. E. Ford and collaborators to designate an individual whose blood-forming tissue contains cells that differ genotypically from the individual's own cells. The chimeric state is established by injecting hemopoietic cells, for example, bone marrow, from a genetically dissimilar donor into an irradiated recipient; and the transplanted foreign cells are able to proliferate because the recipient's immune system has been depressed by irradiation. Before most investigators accepted that a chimeric state could be achieved experimentally, the mechanism by which injected hemopoietic cells prevented acute deaths from whole-body ionizing irradiation was vigorously debated. The vigor of this debate was exceeded only by that of arguments that followed about the cause of secondary disease, a syndrome from which many animals subsequently die as a result of the foreign hemopoietic graft.

The authors of *Radiation Chimaeras* have, with their colleagues in Rijswijk, The Netherlands, contributed a significant quantity of valuable experimental data which have helped direct and solidify current thinking in the field they review in this book. *Radiation Chimaeras* is, however, more than a critical review, because it includes many data obtained by the Rijswijk group that have not appeared in the open literature. This is especially evident in a chapter on pathology of radiation chimeras which presents an excellent description, together with photomicrographs, of tissue changes associated with hemopoietic-cell grafting, and particularly of changes occurring during the course of secondary disease.

Although primarily directed to the specialist, the book will also be useful to the nonspecialist because it includes a sufficient amount of clearly presented background information. The introductory historical resumé is reasonably complete, but perhaps shows too much concern for who did what first. Literature coverage extends into early 1965 and is purportedly selective so as to include primarily those reports which provide clearly interpretable results and give satisfactory proof of chimerism. These restrictions, while certainly warranted, are in some cases influenced by what an investigator considers interpretable results and satisfactory proof. Readers relatively unfamiliar with the subject will appreciate the reinforcement through repetition of well-established observations and their cross-references among chapters. Although the repetition may hamper those familiar with the field, there is no difficulty finding sections that describe controversial areas of research, about which the authors clearly state their personal opinions.

In general, each subject related to conditions under which chimerism can be established is treated comparatively, progressing phylogenetically from rodent to man. The authors attempt to bridge the gap between these two species by way of the monkey, in which they have studied bone-marrow transplantation and secondary disease rather extensively during the past few years.

Results of animal experiments are evaluated in terms of their relevance