

HOLMES ROLSTON, III

Hewn and Cleft from this Rock

MEDITATION AT THE
PRECAMBRIAN CONTACT,
PARDEE POINT, DOE RIVER GORGE,
CARTER COUNTY, TENNESSEE

THE WALK IN has carried me backward, ten thousand years at every step, and here I must rest, for I am lost in the plethora of time. Pardee Point shall be an Ebenezer, a *stone of help*. Before me is the inclined contact located in the rock cut; now can I fix my bearings from the precambrian contact? Inescapably, there has crept upon me a feeling of return, of nostalgia, as though I had been here before. Perhaps it is rather the disquiet one has when he visits an ancestral grave. Or has the journey here let sweep over me the ever dormant yearning to return to the womb of mother earth? I am the sentient offspring of this rock; in this evanescent encounter Dust shall return and meet in retrospect the dust from whence he came. "In the mother's body man knows the universe, in birth he forgets it." If I can recollect my pre-natal past, my gestation in the geological womb, my genealogy, then I shall know who I am and where I am.

One steps into the abandoned tunnels enroute here, lower in the gorge, with an initial shudder. He enters the stone bowels of earth as though they were haunted with the jinn of Hades. The darkness is lonesome and alien. Intuitions of the savage persist, modern as I am. But the shudder passes, and, as is the case with one's initial encounter with the sea, there follows a fascination born of the intuition of connection, of re-connection. As the blood in my veins is but an inland sea, so the rock in my bones is but borrowed from the subterranean matrix in which I am re-immersed. Behind the hostility of plutonic depths, and interred with these sediments, and dissolved in the sea, are the nutrient powders of life. The waters of the oceans must, if I judge aright, have escaped juvenile from the earth. Proto-rock sired the seas. Volatile magmas belched fertile vapors and gases. Rains fell from methane-ammonia laden skies, and fell again to enrich the sea with salts of erosion for a billion years. Out of the lithosphere: atmosphere, and hydrosphere, and biosphere. Earth's carbonate and apatite have graced me with the carbon, calcium, and phosphate that support my frame. The iron of hornblende and augite is the iron of the blood in which courses my life. Those stains of limonite and hematite now coloring this weathered cut will tomorrow be the hemaglobin that flushes my face with red. So now would I, this rock parasite, return to praise my natural parents. Ephemeral, anomalous, if so I am, erudite, conscious, proud, I can no longer suppress, but yield to, rejoice in, and humbly confess yet another primitive intuition, only enriched by my intellec-

tual sophistication. Here is my cradle. My soul is hidden in the cleft of this rock.

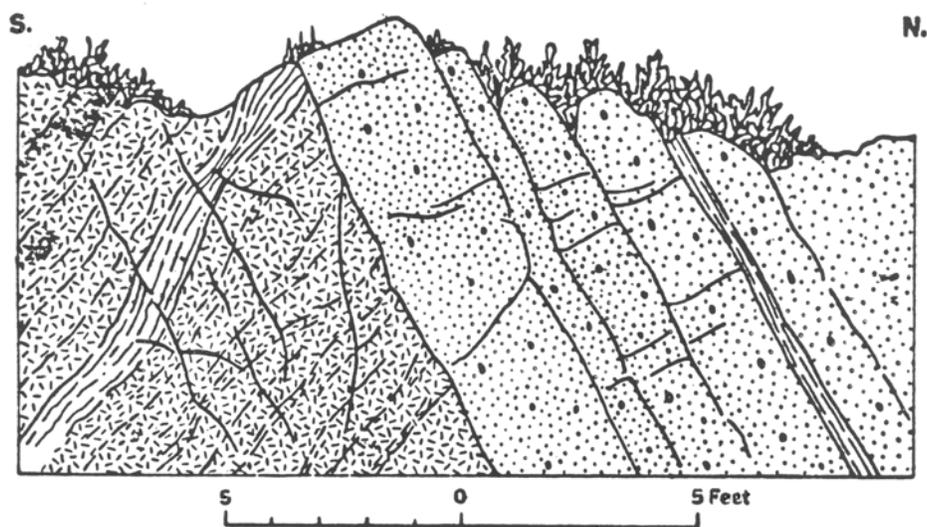
This thin line opposite me indexes the passage of the basal conglomerate of the Unicoi formation across a major unconformity down into the precambrian plutonic complex—here a pegmatitic and gneissic granite, and a little further up the gorge varied with quartz monzonite and granodiorite. That is a date of reckoning in this rock calendar. Prompted by it, I let these hills dissolve and recompose eastward in Primeval Appalachia. But the crystalline basement remains before me, a relic of those aeonian precambrian years, now all but irrecoverably erased by the tides of time. These dumb and hoary walls, so void of records from that intriguing eon they represent, still speak of my beginnings—if but cryptically.

A porphyritic basalt float block, dislodged from Fork Mountain above, or perhaps left by the Doe in a forgotten flood, rests now in Cambrian terrain, a quarter of a mile northeastward. Earlier I hammered off a chip to see how the world was made, and how I was made. The secret was there. It crystallizes. It polymerizes. Set in the black groundmass of this chip, rotated now between my thumb and my forefinger, is a grey plagioclase phenocryst, a polysynthetic twin, larger than my thumbnail, the faces 110, 010, 001, and $\bar{1}01$ especially well developed. With a lens I make out the lamellae. The scintillations of sunlight cast off these surfaces hint at the crystalline order beneath: silicon, oxygen, aluminum, calcium stacked and inlaid on a lattice that shames the finest arabesque. This spectacular unit runs through the mountain, and a couple of weeks ago I cut a section from a piece gathered on the other side. It is colored mostly by magnetite needles disseminated through a mass of plagioclase laths; much of the feldspar has long since aged to sericite; and there is, as a harbinger of things to come, a little carbonate in euhedral rhombs.

The world crystallizes, and more. For vast potential is latent in that carbon!

The comparative monotony of mineral architecture is so only by comparison with organic structure. Geochemistry has a brother and sequel: biochemistry. The chorus of the patterned silicate tetrahedra, of the rings and strings and planes and cells, has a harmonic vibration in carbon. Only now, like a descant that rises above and enhances a melody in lower octaves, there is openness and novelty, a symphony. Mobile and supple, the molecules concatenate, and the mega-molecular chains concatenate again, relentlessly pursuing their one-handed dissymmetry, until the motif becomes richer still: amino acids and proteins. Entropy yields. They replicate. Crystal building passes over into reproduction. With this polymerization came the pregnancy of the precambrian earth. Indeed, I suppose that when these rocks that face me were congealed her labor was over. She already nursed and nurtured her infant brood, their molecular umbilical cord hardly yet severed.

How much that thin line of contact reveals and conceals! Like an argument from silence, it argues from absence. What is not there is the right half of the rock wall so massively present on my left. Suddenly it terminates, both pegmatite and gneissic granite truncated now by the Unicoi. But the Unicoi came after. That conglomerate was laid on an already truncated surface, a surface which had to be where those great beds of grit and pebble could be laid—submerged at the shallow bottom of a Cambrian sea. I concede the contact's mute argument, pass a dozen million years, and let the Waucobian seas roll inward and over me, filling the Appalachian migeosyncline. Should I fear the deluge, having carried here with me on my morning hike my own "walking sack of sea water?" Now I shall commune with this face of indurated pebbles,



Precambrian contact at Pardee Point in the Unaka Mountains, Carter County, Tennessee. A cut on an abandoned railroad line through Doe River Gorge exposes an unconformity at the base of the Unicoi formation. Conglomerate (right) overlies and truncates complex Precambrian metamorphic rocks (left). From *Geology of Northeasternmost Tennessee*, by Philip B. King and Herman W. Ferguson, U. S. Geological Survey Professional Paper 311 (1960), p. 36.

relict skin of sea water in conversation with petrified sea bottom. Besides, the shores are barren and sterile, the hills are naked and silent, and here on the marine stage is where the action is.

Crossing this contact raises the curtain on a drama already in progress. Nature has by now long since re-invoked an ancient tectonic theme, the cell. With that stroke life has exploded. More recently she has armored it, and the armor doubles well as a coffin, and with that innovation this stone manuscript is more legible. The latest newcomer is an arthropod of colossal intricacy and size, colossal that is by Waucobian standards—*Olenellus*, whose fossilized remains are found, if not in the gorge, in other Chilhowee beds in the vicinity. My spartailed predecessor's long reign here is appropriately memorialized by the rock sequence from here to Hampton. I reckon myself to have walked through most of the Early Cambrian, and a tombstone of such proportions, a mile and a half long, is a fitting monument for thirty million years or so. By rough equation scratched at my feet, when I am laid in this dust, the length of my own gravestone will serve reasonably well to represent the reign of *Homo sapiens*.

My quartzite stool is solid beneath me (rather too firm; my usual seats are softer), but that stability is a short ranged deception. When one proceeds as recklessly through time as have I this morning, *terra firma* warps beneath his feet. Else these hills are an illusion. The argument is as impregnable as this rock face with which I converse. The skeptic has only to go round Black Mountain behind me and look at Buckled Rock below Potato Top in the Laurel Fork Gorge. Indeed, there is no need for that. One can see Cedar Mountain from here. The old sea beds crop out where the Doe has cut through them, as they were lifted astride its path. And what else perched them high on Cedar's south side? That orogeny began in the Permian and cast the ancestral Appalachians out of the sea. The ferns of the gorge might remember—*Dryopteris marginalis* and *Polystichum acrostichoides* there; or the *Cheilanthes tomentosa* and *C. lanosa*, and the hauntingly rare *Woodsia scopulina* down in Polly Hollow. Their Carboniferous grandparents managed to survive the Permian crisis. And the mountains too have survived by frequent if not continual rebirth. In their long and cyclic struggle with erosion, time and time over again the gnawing rivers have carried them back into the midst of the sea, only to find the penepained hills reared upward again. The Doe rises on the flanks of the Roan. The river's roar below me I take as tribute to the massive monarch of the Unakas high above me, longest lived of this generation of these hills, whose pre-Schooley birth reaches back into the Tertiary.

Would that I could hear the venerable patriarch speak, for it, like the Sphinx, knows the riddle of man. While these mountains were last being lofted high, old mother

earth was lofting upward the most bizarre of her children. Demeter went to work on the central nervous system and the brain. She wrought of rock, polymerized and concatenated a million times over, a personalized dustup. Morphologically he is close to his anthropoid cousins. The line is as thin as that between the Unicoi and the granite. Yet the pre-conscious contact, like the precambrian, seems to hide a major unconformity. That contact is crossed somewhere in the Pliocene, though no man yet knows precisely where. The earliest strata of the Pliocene are silent and preadamite, but in the next the anthropologist is disconcerted to find signs of his own kind. Another splitter of rocks has preceded him. There are his chipped flints—like these rough chips that I today have made.

As though to invoke his name were to cause him to appear, my thoughts had no sooner risen to the coming of man than they were cut short by the coming of man. His earliest sign was the rustle of leaves some distance away and muffled so that one could wonder whether it was just the wind. But no, there again, now the snap of a twig; maybe a grouse or a squirrel. The stir was curiously subdued, like the sounds of stealth. Straining eyes and ears, I next judged that I was eavesdropping on a doe, but shortly I sensed that I had misjudged the encounter. I was being stalked by another of my species, and he was armed with a handgun. At that we met, though he was yet thirty yards away, for there flashed through both the awareness that the presence of each was known by the other. But now he made no effort to conceal his presence, and his weapon was sheathed, so I relaxed as he approached. If I was puzzled by him, especially his pistol, he was no less puzzled by me, especially my hammer. Yet it didn't seem quite the mutual estimate of each other's arsenal.

"Seen anybody else around here?" asked the sheriff, for he was close enough for me to see a badge half covered by his leather jacket. I assured him that I had not. On the basis of the specimens in my haversack he deciphered the function of my hammer. There must be some correlation between geology and honesty, even avocational geology—perhaps merely that this gear would be a most unlikely thief's disguise—for his conversation was forthwith level and straightforward. "We are looking for some bootleggers on a tip that they have been working out of a hollow up here." His "we" was more than editorial, for he had mobile support. A carload of deputies crept around the bed, their pace doubly slowed by stealth and the difficulty of travel over the abandoned railroad grade. I was surprised that they had been able to squeeze through the tunnels. His backup squad closed in, but their alarm was a false one. There was no moonshining on the Unicoi; and, after pleasantries, they left to search the metamorphic terrain, the scout advancing about a hundred yards, or a million year's worth of rock, ahead of his fellow lawmen.

How disrespectfully had the sheriff crossed the hal-

lowed precambrian contact! Having committed his sin of ignorant profanity, he disappeared. Some higher officer of law should arrest and reprimand him for his sacrilege. But the upset that now overshadowed my thoughts went deeper than that. How curious to have watched this *Homo moralis* transgress unawares the boundary between the Cryptozoic and the Paleozoic! It was as though he pursued his moral quest independently of his origins, as though there were now superimposed on the bedrock of earth a novel, ethical traffic. He came and went preaching and enforcing his "Thou shalt not," as though his sermon and authority were derived elsewhere than from the dust of which he is composed. How out of this naked rock which *is* did there come his *ought*? And from whence did I, who had minutes ago traced my ancestry to the Cambrian, inherit that moral fibre which not less than bone and blood supports my life?

"What a monstrous spectre is this man," wrote Stevenson in a similar mood, "the disease of the agglutinated dust, lifting alternate feet or lying drugged with slumber; killing, feeding, growing, bringing forth small copies of himself; grown upon with hair like grass, fitted with eyes that move and glitter in his face; a thing to set children screaming;—and yet looked at nearlier, known as his fellows know him, how surprising are his attributes! Poor soul, here for so little, cast among so many hardships, filled with desires so incommensurate and so inconsistent, savagely surrounded, savagely descended, irremediably condemned to prey upon his fellow lives: who should have blamed him had he been of a piece with his destiny and a being merely barbarous? And we look and behold him instead filled with imperfect virtues: infinitely childish, often admirably valiant, often touchingly kind; sitting down, amidst his momentary life, to debate of right and wrong and the attributes of the deity; rising up to do battle for an egg or die for an idea; singling out his friends and his mate with cordial affection; bringing forth in pain, rearing with long-suffering solicitude, his young. To touch the heart of his mystery, we find in him one thought, strange to the point of lunacy: the thought of duty; the thought of something owing to himself, to his neighbour, to his God: an ideal of decency, to which he would rise if it were possible; a limit of shame, below which, if it be possible, he will not stoop" (*Pulvis et Umbra*)

When first he crossed this contact, he came as *Homo faber* in search of iron to make his tools. The stone chips were far too crude; the native metals much too soft; now he had fire and he knew how to smelt. A nineteenth century mountaineer with prying eye, given, as am I, to splitting rocks with hammers, found magnetite ore at Cranberry just over the divide from the headwaters of the Doe. Some forgotten whim of earth had collected enough needles like these in this trap chip I finger to concentrate a workable deposit—as though to hide it—on the inac-

cessible back side of the Hump, the north end of the Roan group. But how could he get it to the furnaces at Johnson City? A century ago almost to the year the tool-making animal began to set this track. He subdued his earth, blasted out the tunnels above and below, and plowed his arrogant way past this watershed of history. A decade and a half later his steaming iron horse, Tweet-sie, began to carry out his ore, did so for half a century, and would today had not he cleverly located other deposits unprotected by so wild a gorge as this. So the sheriff got his gun, and his deputies ride in a carriage of iron. But *Homo sapiens* has crossed this contact again; now he employs his iron, he wields his pistol and he drives his fossil-fueled squad car in the pursuit of an *ought*. If I am wise, as specified in my binomial, I do not now think that in this consists my specific wisdom: that I am *faber*. I cannot exchange the epithet for *sapiens* without loss, for have I not just seen my own brothers doing battle over right and wrong?

On the main road I passed earlier today a shrine in whose name men have blended reference to this locale and matrix out of which they have risen, to the water, and to this dimension of life which now eludes me: the Doe River Free Will Baptist Church. Never is he more bizarre than when he, *Homo sacramentalis*, washes himself with water from the Doe, celebrates his freedom, and brazenly abbreviates the condition thereby symbolized or attained with f.w.b. And, for all his Tennessean suspicion of my heterodoxy, he is right. Or if he is not right, he unashamedly has hold of the *differentia* of his genus. The mundane parental forces that lofted him upward have cast him high. Like the eagle which is now here so rare, and which he might more wisely have conserved sacramentally, he soars over Roan, noble monarch of the monarch of the Unakas. He has been thrust over the earth that cradled him, thrust up to an evolutionary critical velocity, aye, an escape velocity, so that whatever telluric forces may yet bind him, he also travels freely. He is doubtless yet obligated ecologically, but this is novel: earth has sufficiently released him so that now he is more properly beholden deontologically and ontologically. Dust he is, but the dust is excited and animated by the wind, the **B-ogá** ", the **וּרְר**, and in him wind passes over into spirit. Reason haunts rotted rock. Out of causality emerges intentionality; out of **nLF4J RLPO** Granodiorite pulverizes and personifies. Soma undergoes metasomatic alteration. Stone is transubstantiated into soul.

The rocks that surround me I judge to be *in situ*, for I crossed the Iron Mountain fault at Hampton. But the rock from Elizabethton to Damascus is not autochthonous. In a regional overthrusting that staggers the imagination, the Shady Valley thrust sheet, a couple of mountain counties worth of rock, was imported here from somewhere south-eastward. I think now that I also must be allochthonous,

liberated from the rock in which I first was emplaced. Pygmalion redivivus, I have sprung from stone and I have sprung loose from stone. Fact surpasses our most riotous and outlandish dreams. Was there ever a fable quite this droll, a myth quite this bold: a man auto-fabricated of mud, and rock, and dust, and wind! *Homo lithospermaticus*, thence *Homo liber* and *Homo moralis*! In a world where what I have recalled and witnessed today has actually managed to happen, anything can happen!

Noblesse oblige. But obligation has commensurate privilege. The sheriff has transgressed this contact and left in quest of his *ought*. I shall linger and wait in wonder. I shall celebrate my geogenesis, my being in freedom, by conversing with this consanguine rock from whence I was hewn. Soul, thou art perched atop these rocks, inconsistently lording it over them and bowing before them. Has this occidental son come home, as those of the orient advise, to venerate his ancestors? Or has the tail come round to smite the dog? I split that rock; and now I weep over it. Passions return that I knew formerly before the sarsen trilithons and bluestones at Stonehenge; my blood is Neolithic. The Baptist bows at his Doe River altar, confusedly proud of his freedom and yet humble before the mysteries of his origins. The omnipresence of rock must account for the religious bent of the mountaineer; open heights prompt his superstition and spirituality. The

heathen were right: temples belong on high places of rock. And the Israelis were born at Sinai. How I too atop the Roan massif have found myself elevated psychically before the mysteries which the stone Roan-sphinx hides! The lifeless granite, this fossil conglomerate inescapably now become charged with a numinous mystique. They address me, alas, they enchant me—the gods have been here—and I succumb again to the naive emoting from which I, so deeply disciplined in scientific criticism and positivist analysis, had thought myself to have escaped. Could it be that modernity's ken ignores and suppresses an authentic, primitive organon which now quickens within me? Need I apologize for my wonder? I think I shall rather boast of it. He has crossed this contact as *Homo faber*; he has crossed it as *Homo moralis*. Let now come one to hesitate, to worship here at this sacred line. I come as *Homo admirans*. Knowledge begins in wonder, observed the sage of Athens. But it begets it as well, and, reveling in awe, I am who I am. So find I now my peace, my place as noble and aesthetic scion of stone. In my silence and solitude, is it only the March wind? Or is there an echo down the gorge?—"Look with wonder at that which is before you." "He who wonders shall reign, and he who reigns shall rest." O Rock Face, there does miracle in thee lie. Else thou art a sacrament, a *persona* that out-lies and overlies a Presence.

Holmes Rolston, III, is now Assistant Professor of Philosophy at Colorado State University in Fort Collins, Colorado, but he was long a resident of the area of which he writes, making his home in Bristol, Virginia-Tennessee. Prof. Rolston has his doctorate in religious studies from the University of Edinburgh and was trained in philosophy at the University of Pittsburgh. Avocationally, he is a naturalist. Previous work has appeared in the Scottish Journal of Theology and in Virginia Wildlife. This essay results from a day spent in the Doe River Gorge, March 21, 1966.

