William Richard Dickinson (1931-2015) A Personal Farewell

T. F. Lawton

New Mexico Geology, v. 37, n. 3 pp. 70-74, Online ISSN: 2837-6420.
https://doi.org/10.58799/NMG-v37n3.70

This page is intentionally left blank to maintain order of facing pages.

William Richard Dickinson (1931–2015)
A Personal Farewell

Timothy F. Lawton, Centro de Geociencias
Universidad Nacional Autónoma de México, Querétaro, 76230, México

Bill and Jackie Dickinson on an Arizona Geological Society field trip in 2010. Photo courtesy of Karen Wenrich.

Introduction

With the passing of Bill Dickinson in mid-July, the geologic community of New Mexico, and everywhere else, lost an enduring colleague and friend. By a remarkable combination of intellect, self-confidence, engaging humility, and prodigious output of published work, he influenced and challenged (to date) three generations of geoscientists and other researchers—sedimentary geologists, igneous petrologists, tectonicists, sandstone petrologists, archeologists and university students, to list a few categories—around the globe. Bill looms large on the geologic landscape of western North America and surely the Big Book on Cordilleran Tectonics contains a longish chapter entitled "The Life and Times of Bill Dickinson." To summarize that chapter in a few pages might be considered foolish; if so, consider the following a momentary lapse of reason.

Career Trajectory

The wide and varied path of Dickinson's career is challenging to tread even in retrospect, and impossible to have even guessed at in advance; in some phases, it seems to have followed a rational, single sequence of themes that grew upon one another in an evolutionary fashion, but further study shows that seemingly disparate, yet parallel scientific disciplines were deliberately woven together to gain new traction on unsolved problems and in the doing yielded new fields of scientific endeavor. This ability to meld unrelated disciplines constitutes the fabric of genius. It would be impossible to look at the accomplishments from a single phase of his research lifetime and predict from that phase the direction of a particular path into the future, or even to hindcast the beginnings. I divide his lifetime into the Early Years, Stanford, Arizona, and a protracted triumphant phase of hyperactive retirement. Some of these recollections are in his own words and others are as I recall the conversations. The scientific accomplishments and recognitions of them are a matter of public record.

Prelude

Bill was born in Nashville, Tennessee. His parents raised horses, and he learned to ride before moving, as a teenager, with the family to California. As an undergrad at Stanford, he spent every Christmas and Spring vacation packing through the western Transverse Ranges with friends, during a time when he kept a riding horse and packhorse at a ranch on the Santa Ynez River. He spent summer breaks on the Colorado Plateau, operating out of Bluff, Utah, as a participant and later a counselor at Explorer's Camp, run by Kenny Ross, who later founded a river running company called Wild Rivers. The camp was a horseback forerunner of Outward Bound, but as Bill put it, "way more hard-core." He ran some rivers during that time, and participated in the first traverse of Cataract Canyon in inflatable rafts in 1949. There is an inset photo near mile 199 of the Colorado River strip map in the first edition of Bill Belknap's *Canyonlands River Guide* that shows two young men with paddles, in the back of a 12-foot military inflatable, working furiously through some rough water. The caption, which reads "The Big Drop. Rapid 23 paddled by Ken Ross and Jon Lindbergh. 4 September 1949," is evidently improperly attributed, because Bill once pointed out the photo in his copy of the guide and observed, "That's Kenny and me in the boat."

The river days fostered his interest in earth processes and honed his common sense. On one San Juan River trip, he was fascinated by sand waves on the lower stretch of the river, now beneath Lake Powell, downstream of the Goosenecks and so naturally he tied himself on the end of a rope, had some friends hold the line, and swam out into the current above the rapid to investigate. He drifted downstream into the haystacks and, although wearing a flotation device of some type, he jerked to a halt at the end of his rope and suddenly found himself "plastered firmly against the sandy bottom," unable to move or do anything to save himself. The guys holding the rope were similarly befuddled by his abrupt disappearance and briefly held their ground, bracing themselves against the taut line. After a moment, one of them regained enough composure to holler that they should let go of the rope. They did, Bill popped up, floated out the rest of the rapid and swam back to shore, a life saved and a lesson learned.

He possessed two different voices. For one, there was Dickinson the orator and professor, a persona for which he had a full and resonant, commonly booming, voice. As an orator, he had a powerful capacity to communicate his views, a capacity that stemmed in part from articulate phrasing and an enormous vocabulary, some of it invented, in part from a willingness to discuss his thoughts, in depth, wherever and whenever, and in part from a perception among those in the discussion that their interpretations were taken seriously. He listened intently, evaluated message content, and if he demurred, was quick to point out flaws in an argument, all in real time, and in a completely relaxed manner. Second, there was Bill the raconteur. He loved to tell a tale, and he fell into another voice for story telling or for describing what he considered the interpretive dead ends of others, which were generally amusing to him. That voice was higher by an octive and raspy, and grew ever more wheezy as the story progressed and he became more amused, his face broadening into a huge grin and his eyes glittering slits as he leaned into the listener, his hands planted firmly on the desk or table, or if space permitted, his arms spread just short of full span and his fingers fully splayed. His tales were pure Huck Finn, but usually possessed plots and conclusions.

Stanford

Bill received three degrees from Stanford University, a B.S. in Petroleum Engineering, and M.S. and Ph.D. in Geology. As an undergraduate at Stanford, Dickinson was at the beginning a "disgruntled" engineering major, "a duck out of water," he once wrote with his life-long penchant for re-invented metaphors. In the spring quarter of his junior year, he took a course called Geology for Engineers from Dr. Aaron Waters. His "Eureka moment" came on a class field trip to Half Moon Bay, just across the coastal hills from campus, when it struck him that "a guy might be able to make a living doing that sort of thing." He claimed to have never looked back after that day.

He became an acting assistant professor at Stanford in 1958, when he began the first phase of his academic career studying the geology of active margins. A scientific revolution was newly underway as geosynclines fell to the logic of the new global tectonics, and Dickinson was immediately a proponent of the new ideas. In 1964, he received a Guggenheim Fellowship to investigate volcaniclastic sedimentation in the Neogene succession of Fiji. Scientific contributions during that time began with analysis of the genetic relations of andesites to subduction zones (Dickinson and Hatherton, 1967), and evolved quickly to the role of sedimentary basins in the gap between the trench and the magmatic arc (Dickinson, 1970b). He convened a legendary Penrose Conference on Plate Tectonics and Orogenic Belts at Asilomar, California in 1969, edited an SEPM Special Paper entitled "Tectonics and Sedimentation" (Dickinson, 1974), and devised a genetic classification of sedimentary basins according to their positions with respect to plate boundaries (Dickinson, 1976). Although much embellished, the latter scheme has been little modified in the intervening years. To the end of his days, a deliberately broken and repaired ceramic dinner plate with signatures of the participants from the Asilomar Conference hung on his various office walls. Years later, Eldridge Moores, another major influence in Cordilleran tectonics, recalled of the Penrose Conference (Moores, 1999):

> "At the meeting, the full import of the plate tectonic revolution burst upon the participants like a dam failure. Dickinson's final day summation of the relationship between active tectonic environments and sedimentation (subsequently published as Dickinson, 1971, 1972) administered what seemed at the time to be the final *coup de grace* to the old geosynclinal concept. I remember it as one of the most exciting scientific moments of my life!"

He married Jacqueline (Jackie) Spencer in 1970, and they were inseparable traveling companions from that time on.

Parallel with his research on andesites, he developed an intense interest in sandstones derived from volcanic rocks and how the general composition of sedimentary-basin fill might record plate-tectonic setting. In order to better understand how sandstone compositions reflected the tectonic setting of a basin, and hence its geotectonic significance, he learned how to see through the complicated alteration patterns of lithic sandstones to get at original composition (Dickinson, 1970a). I learned early in our association never to use the term *greywacke*. He also developed a point-counting method for systematic petrographic analysis of sandstones, a technique that reduced an inherent bias introduced into count results by grain-size variation in different samples. Because an Italian petrographer independently developed a similar methodology at the same time, the counting technique is to this day known as the "Gazzi-Dickinson" method (Ingersoll et al., 1984). The compositional analysis of sandstones led to a series of papers by Bill and his graduate students, culminating in a synthesis of extant compositional data entitled "Plate Tectonics and Sandstone Composition," published in AAPG Bulletin (Dickinson and Suzcek, 1979). At the time, it was axiomatic that most sedimentary petrologists of the latter 20th Century came from established lineages, schools of thought that arose in centers of excellence in the East and Midwest and extended back to the beginning of the century, or earlier. Lacking such a pedigree, but familiar with the extant literature, and necessity being the mother of invention, Bill simply puzzled out a method to get good reproducible results, whether by a single operator, or multiple investigators working on a single project (see Graham et al., 1976). A member of one of the established academic lineages at UT Austin once asked me, completely seriously, "Where did he come from?"

University of Arizona

In 1979, Bill moved from Stanford to the University of Arizona in Tucson, where he and Jackie bought a small home in what was then the rural north side of town, overlooking River Road and the dry Rillito River. Together with Peter Coney, he founded the Laboratory of Geotectonics, which expanded and complemented an already-powerhouse Department of Geosciences with strengths in mining geology, structural geology, igneous petrology and paleontology. He delved enthusiastically into the regional geology of southern Arizona, and within a decade, with the help of a small army of students, had made inroads into the little-understood Bisbee Basin and Miocene basins associated with development of the only recently elucidated core complexes. Characteristically, he referred to the Miocene gravel deposits as the "Chimichanga Conglomerates," because "Everywhere these rocks crop out, throughout their range of distribution, you can always find yourself a great chimichanga for dinner." He applied plate-tectonic logic to the southwestern part of Laurentia, which resulted in an influential compilation of papers under the title, "Relations of tectonics to ore deposits in the southern Cordillera," published by the Arizona Geological Society (Dickinson and Payne, 1981). At UA, Bill championed the concept of the pre-publication MS thesis, an article-length work, in lieu of the more traditional black book; consequently, the early years at UA yielded an edited volume on the Mesozoic Rocks of southern Arizona, principally containing papers authored by student advisees and their contemporary colleagues (Dickinson and Klute, 1987), as well as a monograph on Miocene sedimentation associated with the core complex of the Catalina Mountains (Dickinson, 1991). Although he once offered a rather flimsy explanation for his departure from Stanford by claiming, "I painted myself into a corner in California geology," he continued to publish syntheses on the Mesozoic evolution of California (e.g., Dickinson et al., 1982; Dickinson, 1983).

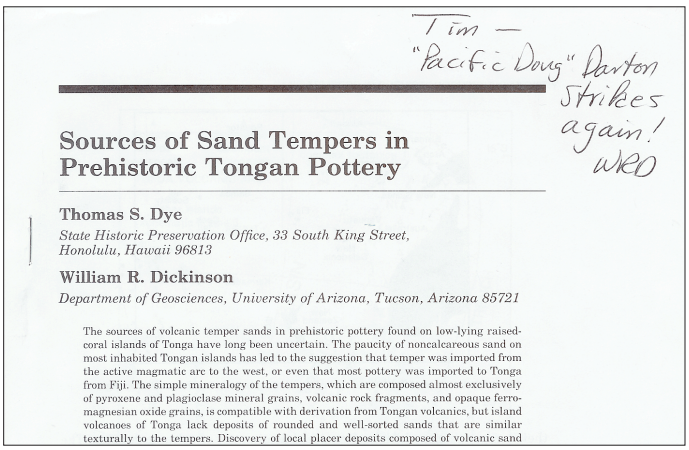
In addition to a new house, the other thing Bill purchased upon arriving in Tucson was a 1978 Ford F-150 pickup. It was fire engine red, big with a white camper, had four-wheel drive and the economical, rectilinear lines characteristic of the era. During the 1980s he and Jackie became regular participants at Annual NMGS Fall Field Trips, and the Red Ford was a conspicuous component of the annual vehicle caravan. It had a bench seat with plenty of room for three people, and Jackie was always there, in the middle if there was an extra rider, which was usually the case. Over the years, the pickup traveled to more places in the western U.S. than most of us can find on Google Earth, and Bill once claimed, "It's the last truck I'll ever buy." In truth, I think it might have been his first truck as well. Then, not long after he retired, it was stolen from a UA parking garage. After several days, resigned to its loss, he put the truck title in an envelope, ready to mail it next day to the insurance company. At literally the eleventh hour, the Phoenix Police Department called to say the truck had been recovered at a local chop shop. The thieves had removed the VIN tag from the Ford's dashboard, but had overlooked an identification plate on the chassis, evidently a common oversight. His truck came home with new chrome rims, a chrome tailgate strip, and the desert pin striping gone, buffed out of the paint job. It was a brand new ride. He put stock wheels back on but kept the chrome strip. Despite his claim of undying loyalty to the Red Ford, it accumulated a lot of miles in the

pursuit of so much western geology, eventually got road weary, and the Dickinsons finally showed up in a brand-new blue Ford pickup at the NMGS Chama Basin trip in 2005. That marked the end of an era, but I'm ahead of myself.

At about the time he arrived in Tucson, Bill's attention returned to the Colorado Plateau. I take some credit for that, in a convoluted way: In the spring of 1978, I attended a Pacific Section SEPM meeting in Sacramento, full of talks about the paleogeography and evolution of the Sierra Nevada derived from study of stratigraphy and sedimentary basins through time. It was a tough interpretive row to hoe, in part because of intense deformation characteristic of the Sierran foothills and attendant problems determining the age of complex accretionary rocks there. Rich Schweikert, one of Bill's former students, did an impromptu chalk talk, without benefit of slides, on how the Laytonville Limestone in the Franciscan Formation might be the deposit of a volcanic atoll, traveled to the margin from somewhere far out in the Pacific, a stupendous suggestion. The meeting atmosphere was electric, charged with excitement that comes from new insights deriving from novel approaches to vexing problems. The next morning I bounded into Bill's office: "I know what we can do! We can go out behind the arc, to the east, and study the basins where they aren't all messed up. Do the sandstone petrology and all that."

He gave me a brief thoughtful gaze, and said, "Great idea, Sport, but there ain't no basins out there." That was about the extent of the response, and relying on his encyclopedic knowledge of the Cordillera for instant on-site analysis, my reaction was even shorter."Oh." I shuffled out of the office, feeling a little dejected.

A couple of days later, a slip of paper appeared in my mailbox with a handwritten note summoning me back to the office, where Bill was energized.
"We can study the foreland basin in Utah," he reprised the earlier short conversation. "It's not right behind the arc, but no one has looked at the sandstone composition there yet."


Tim —
"Pacific Doug" Darton
Strikes
again!
WRD

Sources of Sand Tempers in Prehistoric Tongan Pottery

Thomas S. Dye
State Historic Preservation Office, 33 South King Street, Honolulu, Hawaii 96813

William R. Dickinson
Department of Geosciences, University of Arizona, Tucson, Arizona 85721

The sources of volcanic temper sands in prehistoric pottery found on low-lying raised-coral islands of Tonga have long been uncertain. The paucity of noncalcareous sand on most inhabited Tongan islands has led to the suggestion that temper was imported from the active magmatic arc to the west, or even that most pottery was imported to Tonga from Fiji. The simple mineralogy of the tempers, which are composed almost exclusively of pyroxene and plagioclase mineral grains, volcanic rock fragments, and opaque ferromagnesian oxide grains, is compatible with derivation from Tongan volcanics, but island volcanoes of Tonga lack deposits of rounded and well-sorted sands that are similar texturally to the tempers. Discovery of local placer deposits composed of volcanic sand

The Upper Cretaceous of Utah it was. When I arrived in Tucson in July 1980, in the middle of the most hellacious heat humanity can possibly endure and wondering what and where I had committed to, the three of us hopped into the Red Ford and drove north to cooler weather, through Arizona, southeastern Utah, and into the thrust belt of central Utah, reading the stratigraphy all the way. I learned more regional stratigraphy in those two weeks than in any comparable interval of time since and I began to comprehend a new approach to it. I had seen most of those rocks during my own river years, but the Dickinson lens provided an entirely new way of appreciating strata. That project yielded a handful of papers about the foreland depositional system, including an analysis of Cretaceous-Paleocene sediment-dispersal pathways in the foreland basin (Dickinson et al., 1986). I went off to work and he went on to other things, it seemed, but the plateau ideas fermented.

On the trip to the plateau, Bill developed a third persona, this one an alter ego for which he actually had a name. He referred to this muse as "W.D. Darton," or "W. Doug Darton," or simply "Darton." This guy was a smart, yet mischievous fellow who surfaced from time to time in stories or field events when Bill needed a historical source for which he didn't have a ready attribute, for instance, the discoverer of a small arch we encountered during the trip. The surname was no doubt inspired by the great N.H. Darton of New Mexico fame, but the source of the given names remains a mystery to me. The younger Darton turns up a few times in the acknowledgments sections of papers published in the 1980s, and elsewhere (see figure below).

During his tenure at the University of Arizona, Bill served as general chair of the Annual GSA Meeting in Phoenix (1987) and was head of the Department of Geosciences from 1986–1991. When he began as department head, his annual salary, although not staggering by today's standards, was deemed adequately newsworthy to be published in the Arizona Daily Star. Then, in 1991, he retired from active teaching. By that time, in the span of about 30 years, he had advised some 85 graduate students, almost equally divided between M.S. and Ph.D. degrees.

Retirement

His retirement was quickly noted by the scientific community, although somewhat atypically. In 1992, Bill was elected to the National Academy of Sciences. In 1993, he became President of the Geological Society of America. But perhaps most significantly, he teamed up with George Gehrels, a young structural geologist and geochronologist in the department, to tackle the provenance of sandstones in an entirely new way. Dickinson was smitten by the promise of a new technique for determining the ancestry of resistant zircon grains found in sandstones. The zircon grains, chemically and mechanically resistant in the sedimentary cycle, contain small amounts of uranium that permit age determination of individual grains by decay to lead. He bemoaned the lack of funding for the early work; grain analyses were performed by laborious single-grain dissolution and generally reported in numbers of thirty or fewer zircon grains. Reviewers, accustomed to the probability statistics of traditional petrographic provenance methods provided by counting 400 grains, balked at the proposals floated by Bill and George. They began their work on some problematic Paleozoic units in the Great Basin (Gehrels and Dickinson, 1995) and provided proof of concept: Some grain assemblages definitely came from Laurentia, whereas others in accreted rocks were difficult to attribute to known continental basement sources. Subsequent work in the Basin and Range again employed teams of students, undergraduates this time around, and generated an impressive body of data (Gehrels and Soreghan, 2000). When they eventually secured NSF funding, Bill expressed profound relief in part because it validated his decision to retire, and with the development of more rapid laser-ablation techniques for analyzing zircon grains, the colleagues took on the depositional systems of the Colorado Plateau, ranging from the late Paleozoic through the Late Cretaceous. This work, probably the best known among younger geologists, resulted in a stack of papers that documented transfer of huge volumes of sand from the eastern to the western margin of Laurentia during Permian, Triassic and Jurassic time (Dickinson and Gehrels, 2008b, 2009; Gehrels et al., 2011, among others), and described evolving dispersal systems of the Cordilleran foreland from Late Jurassic through Late Cretaceous time (Dickinson and Gehrels, 2008a). Thus was born another field of endeavor. The development of better laboratory facilities and faster analytical techniques at the University of Arizona, George's *forte*, coupled with procedures for analyzing and interpreting the huge amounts of data that began to flow from the lab, Bill's contribution, inspired a renaissance in provenance studies and their implications for mega-paleogeography. These studies, practiced by legions of workers who would never dream of looking through a microscope at a

sandstone, promise better access to ancient continent- and supercontinent-scale river systems and better attendant plate reconstructions back into the Proterozoic. During this period of time, he also undertook syntheses of the North American Cordillera (Dickinson, 2004) and the Basin and Range region (Dickinson, 2006, 2011).

Bill had a parallel scientific career that many of his colleagues and associates likely learned about from reading his obituaries. Beginning in 1966, complementary with his interest in orogenic andesites, he began a systematic study of sand tempers in potsherds recovered from prehistoric ceramic sites in Oceania, a region of the southwest Pacific spread across 6,500 km from Belau, Yap and the Marianas north of New Guinea to French Polynesia on the east. He examined 1558 thin sections of pottery fragments from sites on nearly 100 islands or island clusters spanning ten major island groups. By 2009, traveling to the South Pacific each summer to visit different islands, he and Jackie had visited more than 120 islands. Notably, his first publication on temper composition (Dickinson and Shutler, 1968) appeared before any of his analyses of synorogenic sandstones. This line of investigation defined groups of temper types derived from different island groups having distinctive petrologic characteristics as a result of their differing plate-tectonic settings and resulted in more than 40 publications on the composition of sherd tempers (Dickinson and Shutler, 2000 and references cited therein). He could recognize sand, for example, from Fiji, or Tonga, or the Solomon Islands. Using petrographic skills and methods devised for the study of sandstone, Bill and colleagues discerned trade routes of colonizing Polynesians between islands, but a key insight was that much of the pottery was indigenous, constructed of local clay and temper, and that (and I can see the wide grin as I read this passage):

> *"Ancient potters were so resourceful in identifying and exploiting rare but readily available raw materials that it has taken investigators more than a quarter century to understand where they found their tempers. Therein may be a moral of lasting importance for future archaeological interpretation in the Pacific region, and especially for those that posit transport of materials over long distances based on the apparent lack of suitable materials locally.....*
> *"In seeking the locations of ceramic resources on Pacific islands, future investigators should credit ancient potters with a detailed knowledge of local environmental constraints at a level difficult to replicate in hindsight (Dye and Dickinson, 1996, p. 161)."*

His South Pacific research, which also included later analysis of the history and mechanisms of island sea-level change, resulted in a body of work impressive in its own right, for which he received the Rip Rapp Archaeological Geology Award, the Archeological Geology Division's top award, at the GSA 2014 Annual Meeting in Vancouver. He also received several other top society awards for his body of work, from the GSA Sedimentary Geology Division (Sloss Award, 1999), SEPM (Twenhofel Medal, 1999), and from GSA itself (Penrose Medal, 1991). But for all this recognition, he never stopped attending regional meetings and field trips, such as those offered by the Utah Geological Association, the Geological Society of Nevada, and the New Mexico Geological Society, because his roots lay in field geology. He participated actively in those meetings, such as on the Fall Field Conference of the Utah Geological Association in 2010, about which he wrote as he was planning to depart for the field trip:

"On the UGA trip I get to spiel about DZ at that wonderful overlook of all the Navajo slick rock country just east of Escalante. I plan to start by quoting the old poem:

> *'Breathes there the man with soul so dead*
> *Who never to himself hath said*
> *This is my own my native land'*
>
> [the joy of wildlands angle], and then say
>
> *'Breathes there the geologist with soul so dead*
> *Who never to himself hath said*
> *I wonder where the hell all that quartz came from'*
>
> [the fun of science angle]. The two together is the perfect formula for life."

CODA

Bill Dickinson has been called a giant in tectonics and sedimentation and the tectonics of the Cordilleran, but what makes a giant? Although the formula varies, intellectual influence of his caliber requires a combination of genius, strong inference, communication skills, accessibility, and productivity. Geology was Bill's profession, his pursuit, and his passion. There was nothing magical about his method: He would select a topic, drive down to the University of Arizona library for the day and read about it, then return home in the evening with a sheaf of longhand written lined pages. The analysis was copy ready, containing observations and interpretations by the authors as well as Bill's own inferences. All trips with Jackie, be they apparent vacations to the South Pacific or camping trips to the Colorado Plateau, were working field trips. He couldn't not work. As he once remarked, "Where else but the South Pacific can you be walking down the stairs from the airplane, flip open your notebook, and start writing?" The short answer is it would probably be easy for most pilgrims visiting a remote tropical island.

His love for the South Pacific explains the location of his unexpected mid-summer death in Tonga, where he was conducting fieldwork with a team of archeologists. As it happens, Jackie, his constant companion of over 40 years, passed away in Tucson in May, preceding him in death by just two months. He was buried in Tonga at Mala'e Sia Cemetary in the village of Nukuleka, Tongatapu, on Sunday August 2, becoming part of an island legacy he helped to discover. In conclusion, one can't help but wonder if he deliberately picked a place just the other side of the International Date Line to get the earliest start possible on whatever adventure comes next.

Acknowledgments

I thank Alan Herring and Jon Spencer for some of the critical dates and locations included in the text.

References Cited

Dickinson, W.R., 1970a, Interpreting detrital modes of graywacke and arkose: Journal of Sedimentary Petrology, v. 40, pp. 695–707.
Dickinson, W.R., 1970b, Relations of andesites, granites and derivative sandstone to arc-trench tectonics: Reviews of Geophysics and Space Physics, v. 8, pp. 813–860.
Dickinson, W.R., 1971, Plate tectonic models of geosynclines: Earth and Planetary Science Letters, v. 10, pp. 165–174.
Dickinson, W.R., 1972, Evidence for plate-tectonic regimes in the rock record: American Journal of Science, v. 272, pp. 551–576.
Dickinson, W.R., 1974, Plate tectonics and sedimentation, in Dickinson, W. R., ed., Tectonics and Sedimentation, Society of Economic Paleontologists and Mineralogists Special Publication 45, pp. 1–27.
Dickinson, W.R., 1976, Plate-tectonic evolution of sedimentary basins: American Association of Petroleum Geologists, Continuing Education Course Note Series 1, 62 pp.
Dickinson, W.R., 1981, Plate tectonic evolution of the southern Cordillera, in Dickinson, W. R., and Payne, W. D., eds., Relations of tectonics to ore deposits in the southern Cordillera, Volume 14, Arizona Geological Society Digest, pp. 113–135.
Dickinson, W.R., 1983, Cretaceous sinistral strike slip along Nacimiento fault in coastal California: American Association of Petroleum Geologists Bulletin, v. 67, pp. 624-645.

Dickinson, W.R., 2004, Evolution of the North American Cordillera: Annual Review of Earth and Planetary Science Letters, v. 32, pp. 13–45.
Dickinson, W.R., 2006, Geotectonic evolution of the Great Basin: Geosphere, v. 2, pp. 353–368.
Dickinson, W.R., 2011, The place of the Great Basin in the Cordilleran orogen, in Steininger, R., and Pennell, B., eds., Great Basin evolution and metallogeny: Reno, Geological Society of Nevada 2010 Symposium, pp. 419–436.
Dickinson, W.R., and Gehrels, G.E., 2008a, Sediment delivery to the Cordilleran foreland basin: Insights from U-Pb ages of detrital zircons in Upper Jurassic and Cretaceous strata of the Colorado Plateau: American Journal of Science, v. 308, pp. 1041–1082.
Dickinson, W.R., and Gehrels, G.E., 2008b, U-Pb ages of detrital zircons in relation to paleogeography: Triassic paleodrainage networks and sediment dispersal across southwest Laurentia: Journal of Sedimentary Research, v. 78, pp. 745–764.
Dickinson, W.R., and Gehrels, G.E., 2009, U-Pb ages of detrital zircons in Jurassic eolian and associated sandstones of the Colorado Plateau: Evidence for transcontinental dispersal and intraregional recycling of sediment: Geological Society of America Bulletin, v. 121, pp. 408–433; doi: 410.1130/B26406.26401.
Dickinson, W.R., and Hatherton, T., 1967, Andesitic volcanism and seismicity around the Pacific: Science, v. 157, pp. 801–803.
Dickinson, W.R., and Klute, M.A., eds., Mesozoic rocks of southern Arizona and adjacent areas: Arizona Geological Society Digest, v. 18, 394 pp.
Dickinson, W.R., and Shutler, R., Jr., 1968, Insular sand tempers of prehistoric pottery from the southwest Pacific, in Yawata, I., and Sinoto, Y. H., eds., Prehistoric culture in Oceania: Honolulu, Hawaii, Bishop Museum Press, pp. 29–37.
Dickinson, W.R., and Shutler, R., Jr., 2000, Implications of petrographic temper analysis for Oceanian prehistory: Journal of World Prehistory, v. 14, pp. 203–266.
Dickinson, W.R., and Suczek, C.A., 1979, Plate tectonics and sandstone compositions: American Association of Petroleum Geologists Bulletin, v. 63, pp. 2164–2182.
Dickinson, W.R., Lawton, T.F., and Inman, K.I., 1986, Sandstone detrital modes, central Utah foreland region: Stratigraphic record of Cretaceous-Paleogene tectonic evolution: Journal of Sedimentary Petrology, v. 56, pp. 276–293.
Dye, T.S., and Dickinson, W.R., 1996, Sources of sand tempers in prehistoric Tongan pottery: Geoarcheology: An International Journal, v. 11, pp. 141–164.
Gehrels, G. E., and Dickinson, W. R., 1995, Detrital zircon provenance of Cambrian to Triassic miogeoclinal and eugeoclinal strata in Nevada: American Journal of Science, v. 295, pp. 18–48.
Gehrels, G. E., Blakey, R., Karlstrom, K. E., Timmons, J. M., Dickinson, B., and Pecha, M., 2011, Detrital zircon U-Pb geochronology of Paleozoic strata in the Grand Canyon, Arizona: Lithosphere, v. 3, pp. 183–200.
Soreghan, M. J., and Gehrels, G. E., eds., Paleozoic and Triassic paleogeography and tectonics of western Nevada and northern California, Geological Society of America Special Paper 347, 252 pp.
Graham, S. A., Ingersoll, R. V., and Dickinson, W. R., 1976, Common provenance for lithic grains in Carboniferous sandstones from Ouachita Mountains and Black Warrior basin: Journal of Sedimentary Petrology, v. 46, pp. 620–632.
Ingersoll, R. V., Bullard, T. F., Ford, R. L., Grimm, J. P., Pickle, J. D., and Sares, S. W., 1984, The effect of grain size on detrital modes: A test of the Gazzi-Dickinson point-counting method: Journal of Sedimentary Petrology, v. 54, pp. 103–116.
Moores, E.M., 1999, William R. Dickinson, in Moores, E.M., Sloan, D. and Stout, D.L. (eds.), Classic Cordilleran Concepts: A View From California: Geological Society of America Special Paper 338, p. 6.