

## Puerto Rico: Growth Change, Progress, Development\*

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There used to be a railroad in Puerto Rico, but the tracks were pulled up years ago. Instead of taking a leisurely train ride from San Juan three-quarters of the way around the island, people going to Mayaguez nowadays take the freeway. It zooms straight south, up and over the island's central mountains to Ponce; from there, it's to Mayaguez. The highway's not quite up to California standards. There are signals through Ponce, for example, and a few more in Mayaguez. There's one at the Mayaguez Mall for that matter, and it holds up plenty of traffic. Almost everyone has time to read the sign announcing that the mall is now open on Sundays. Inside, there is a bilingually stocked B. Dalton, near the Calzado Kinney. But I give the wrong impression. Away from the freeway and the signals and the mall, away from Wendy's and the Colonel, Mayaguez still suggests railroad days.

On the old southern approach to the city there is a walled cemetery, entered through an almost life-size model of a Roman triumphal arch; the massive structure is shaded by mimosas, the base of their trunks booted white against insects. Closer in toward town and only a block from the waterfront, there's an old U.S. Customs House, built in the Doric style but looking unusually severe in this low-latitude setting, where displayed rectitude is an exotic import.

The shopping district is a few blocks inland. It's full of two-story buildings, most of cement though the older ones are of wood. Either way, most of the buildings have shuttered windows, with transoms screened by turned wood or wrought iron. The patterns are dense, florid. Many of the buildings have second-floor balconies supported by paired columns that twist like vines, like a caduceus without wings. Such things happen in the tropics.

Despite 40 years of industrialization, and despite its link to the United States, many parts of Puerto Rico are still a lot like India or Sri Lanka.

Perhaps it's the rugged hills east of Mayaguez prompt the connection, for bananas and oranges grow like weeds under the daily showers of February: not just regular bananas but red ones and finger bananas, like those of Kerala. There are coffee plantations, too, laid out with the geometric precision of the tea bushes that circle the hills above Kandy. (During the 19<sup>th</sup> century, the hills there, too, had coffee plantations, until disease destroyed them.)

Puerto Rico has a remarkably dense network of mountain roads, too. Almost every one of them is old, narrow, and so serpentine that 25 miles an hour is good speed, as the roads nose into one ravine after another. Grand mangoes

and sea almonds line the shoulders, and at each ravine there is a curved bridge just like the last: castellated railings on either side, the whole structure of masonry built to last forever. It's just like the old British roads in the mountains east of Mumbai.

Along the south coast, the old roads are shaded by acacias, that thorniest of trees. This is the dry side of Puerto Rico, sheltered from the driving northeasterly trades. And here again there is an Asian comparison, for Sri Lanka has a dry zone, and it too occupies the part of the island that is most level, most easily cultivated.

Both islands have irrigation canals big and small, with water falling through drop structures and flashing in the sunshine. The chief irrigated crop in Puerto Rico is sugarcane, though, and it's handled mechanically. Every now and then, however, there are wooden carts filled with cane and drawn by a pair of Indian bullocks harnessed with a rope round their great horns and padded with red pillows. Only the picture of Ganesh is missing. It's a powerful contrast, these bullock carts and shady mangoes a few minutes' drive from the freeway and the mail.

How Puerto Rico got from peasants to consumers is a story of growth and change, of progress and development. It is also a story that goes back to a building that adjoins the Mayaguez University campus and looks like a high-ranking officer's bungalow somewhere in India. There are no sashed *subadars* here, no water-bearing *malis*. Instead, there is a grassy knoll, with palms spotted here and there. And on the top of the colonnaded building on the top of the knoll, there's are the words "Research Station 1909." This was only a few years after Henry Phipps of Pittsburgh endowed India's first national agricultural-research station, and this building in Puerto Rico is also for agriculture. Its establishment was the chief recommendation of a report submitted in 1902 by the USDA's "special agent in charge of agricultural investigations in Puerto Rico."

This investigator was Seamon Knapp, the father of agricultural extension in the United States. If his name is at all familiar, it may be because of the Knapp Arch, one of two pedestrian bridges connecting the USDA buildings on Independence Avenue in Washington, D.C. Knapp's fame comes from his work setting up cooperative-demonstration farms showing Southern farmers how to cope with the boll weevil, but Puerto Rico came earlier in his career and was a kind of laboratory for him, a place where Knapp could develop his ideas not only about improving agriculture but about improving society.

For Knapp was more than an agriculturalist; like his better known contemporary Liberty Hyde Bailey, Knapp was an agriculturalist who believed in rural democracy. He put it this way: "a prosperous, intelligent, and contented rural population is essential to our national perpetuity. The world's

experience has shown that the best way to secure this is to encourage the division of all the lands into small farms, each owned and operated by one family." It's hopelessly outdated as a political philosophy, but we still have a soft spot for this Jeffersonian idealism. We don't want to live that life, but we still suspect that in important ways we're the poorer for abandoning it.

Puerto Rico in 1900 was not Jefferson's kind of place. Its population had grown during the 19th century from 150,000 people to a million. In earlier centuries, the Spanish had refused to recognize private-land ownership or to make land grants to settlers. Then they changed their minds, and with that change the island's subsistence agriculture, heavy on plantains, shifted to plantation production of export crops. Sugar and coffee alone took up more than two-thirds of the island's cultivated land by the time Knapp arrived.

Both of the crops were in terrible shape. Sugar prices had fallen steadily over the 19<sup>th</sup> century, and Knapp described the industry's financial condition as "about as bad as it could be." Coffee prices on the other hand were good, for the Spanish appreciated the strong flavor of Puerto Rican coffee. Sales had been strong for many years. The problem with coffee was that 5% of the island's farmers owned half the island's agricultural land. Many of them didn't even live in Puerto Rico. Despite high coffee prices, the vast majority of farmers were poor because they were confined to uneconomically small holdings. Knapp writes with understated tension of the many fine buildings built in Madrid from the profits of Puerto Rican coffee.

As an agriculturalist appointed to help the farmers of this newly acquired American territory, Knapp saw plenty to do. He writes, for example, about fields planted to sugarcane and then harvested year after year for a decade or longer until, exhausted, they are allowed to fall back to rough pasture. Knapp says that cane should not be grown for so many years on the same land, and when the land is followed, cowpeas should be grown, not pastures of whatever comes up. He says that the United States should set up a properly equipped research station, tied to demonstrations on farmers' fields. The two are complementary and essential. "They talk of wanting extension," he says back home, "but they have nothing to extend." Then he turns the pairing the other way and mocks the pure-research experts whose knowledge of farmers and their problems doesn't "extend beyond the three-mile limit."

These were the years, after all, when Kipling urged Americans to take up the "white man's burden." Appropriately, Knapp does not confine himself to agronomy. He deplores Puerto Rico's dependency on export crops; he thinks it's ridiculous that half of each dollar earned from sugar and coffee is spent importing rice and beans and dried fish. This is an "unsafe policy," he says, and he urges diversification into food crops, much as he would later urge Southern farmers to diversity out of cotton.

He isn't afraid of land reform, either. He urges the development of smallholdings. At the same time, he recognizes smallholdings must be able to generate enough income for a family to survive handsomely: he is no advocate of self-sufficiency. He is particularly interested in fruit production and in related industries like canning. Silk manufacture and straw products may be possible. Within a decade, Knapp estimates, income from fruit and nuts alone can equal the island's present earnings from coffee and sugar.

Not all of Knapp's suggestions were implemented. The station was set up, of course, and Knapp had advocated the thousands of miles of paved rural roads that were in fact built by 1920. Knapp would have welcomed the irrigation systems, developed about 1915; perhaps he would have applauded as well the hydroelectric stations built at their storage reservoirs. He would have said a small prayer for the Caribbean National Forest, proclaimed by Theodore Roosevelt and covering part of the mountainous rain forest east of San Juan.

But nothing came of Knapp's recommendations for land reform, for agricultural diversification, or for village industries. Cane acreage on Puerto Rico quadrupled between 1900 and 1930, as the island's sugar was suddenly allowed tariff-free into the American market. By the 1930s half a dozen mainland-based sugar producers owned about half of the island's cultivated land. One of them, South Porto Rico Sugar, built the Caribbean's largest sugar refinery on Guanica Bay, the pear-shaped southwestern harbor where American forces first landed in 1898.

Knapp would have deplored this. And he would have had company. Luis Muñoz Marin, the man who it is hardly an exaggeration to say built modern Puerto Rico, wrote of "the ghastly spectacle" of those years, "of wealth drained from a starving population into the richest country on earth," of profits "sanctimoniously set down in official reports as a favorable trade balance." Muñoz Marin had grown up on the mainland and knew how to use English with power.

It wasn't just the cane workers who suffered from the near monopoly of the mainland sugar companies. Europeans now bought their coffee elsewhere, while American consumers found Puerto Rican coffee too strong. The island's coffee acreage remained nearly constant, but yields collapsed as farmers no longer bothered to maintain shade trees. The soil began to wash away, and by 1940 the coffee crop was only a twentieth what it had been in Knapp's time. Many farmers gave up and moved into the slums of San Juan, periodically visited by congressmen who were warned to expect the worst conditions to be found under the American flag. Those slums are gone now or, like La Peria in old San Juan, vastly improved. For a visitor today, it's hard to imagine what they were like then.

Puerto Rico was lucky, however, to have another Roosevelt in the White House. Like cousin Theodore, Franklin was interested in agriculture, in natural resources, in conservation, and, oddly enough, in Puerto Rico. On the eve of the war he appointed as the island's new governor none other than Rexford Tugwell, the former Columbia University professor who in 1932 had been his most radical advisor. During FDR's first administration, in particular, Tugwell had driven the most radical experiments of the USDA under Secretary Henry Wallace.

Tugwell later wrote that in Puerto Rico he found "all the ingredients of a class war." All he had to do was look out from La Fortaleza, the governor's ancient and decrepit San Juan palace. The nearby slums were filled with people, Tugwell wrote, who had "washed down out of the hills along with their soil."

Tugwell stood in the tradition of Seamon Knapp. He only rarely spoke about the kind of society he wanted to build, of the "ending end" (in Sir Philip Sidney's great phrase) of the programs he would advocate. When the subject arose, however, he would sometimes turn to upstate New York, where he had grown up. He would say, as Knapp might have said, that it ought to be "possible for all of us to approximate that no-riches, no-poverty kind of life in which I grew up."

This was the kind of thing that Tugwell's enemies loved. Frank Kent, a syndicated columnist at the *Baltimore Sun*, mockingly wrote that Tugwell wanted a world with "each man under his own vine and fig tree and none shall be afraid--a land in order, wisely used, with the hills green and the streams blue." It was a cruel half-truth, for though Tugwell very much wanted "a land in order, wisely used," he had, like Knapp, no illusions about self-sufficiency. Indeed, Tugwell was a convinced supporter of the efficiencies of industrial concentration, so much so that he was distressed by FDR's habit of prescribing homesteading as a cure for urban poverty.

Tugwell was in an awkward position here, for though he thought it would be foolish to abandon large-scale production efficiencies, he fully shared the skepticism of Progressives toward big business, and he had no doubt that corporate managers would betray the public interest, so long as they could make money and not have their greed exposed. Adam Smith's self-correcting machinery Tugwell dismissed as a myth. "The jig is up," he wrote during the Great Depression. "The cat is out of the bag. There is no invisible hand."

Tugwell's solution to the problem of combining equity with efficiency was planning: government control over private investment and corporate behavior. The chief vehicle would be the National Resources Planning Board, an organization that had started out dealing with natural resources but which took the name "national" rather than "natural" because its leaders agreed with Tugwell that the conservation of natural resources should not be separated from planning for human needs. "That's right," Roosevelt had said when the

shift was being discussed; "get that down, because that's settled." And when Congress in 1943 killed the agency by refusing to appropriate funds for it, Tugwell's bitter reaction revealed a still unshaken faith in what the board had tried to do. It had "maintained a policy," he wrote, "of avoiding any criticism of the fetishes of *laissez faire*; it had had, nevertheless, an orientation toward the general welfare. So all its compromises were not going to save it from the lobbyists' wrath. It represented, even if poorly and weakly, the public as against private interests, and as such it could not be allowed to live." Like Muñoz, Tugwell knew the tongue.

Years before arriving on the island as governor, Tugwell's philosophy had been tested in Puerto Rico. He had already fought successfully in the USDA to keep the Mayaguez station alive. He had ordered the first soil survey of Puerto Rico, and he had visited the island with Ferdinand Silcox, the forester who after leaving the U.S. Forest Service years earlier was brought back by Tugwell to head its expansion in the 1930s. Under Silcox, land purchases began to be made all along the mountain crest of the island: those blocks of land are today administered by the island's own forest service. Tugwell actually went out to the Mayaguez station with Silcox to discuss the development of island agriculture, and he pursued the same subject with David Fairchild, a tropical-plant explorer who urged him to consider as a model Java, where an extraordinarily intensive agricultural economy had been developed by the Dutch. Tugwell rejected the suggestion. Tiny gardens, he said, would be a recipe for permanent poverty.

Before his appointment as governor, Tugwell had also been sent to Puerto Rico to consider the implications of enforcing the island's so-called 500-acre law. In a moment perhaps of Knappian sympathy or merely ignorance, Congress in 1901 had passed this law, which barred land holdings over 500 acres. It had always been a dead letter. Now there was talk of enforcing it. The result of the talk was the establishment of a Puerto Rico Land Authority, whose organic law declared that it was government policy "that each person who works the land is to be the owner of the land that supports him." These were dangerous words, but senior officials of the authority went so far in the other direction as to advocate state control of all private land: "unrestricted private ownership should be modified by suitable controls," one senior official said, "with the community's interest paramount."

Tugwell admired the civil servants who made such statements. Proud of their courage, he wanted to know how the lands acquired under the 500-acre law would be administered. If in response to popular feeling they were divided into tiny individual holdings, Tugwell thought the result would be another Haiti, where land reform in the name of justice had institutionalized the most desperate poverty. Tugwell instead urged "proportional-profit farms," which would encourage large and efficient corporate units while dividing their profits

among the participating smallholders. Some 80 such farms, varying between 300 and 3,000 acres, were actually operating in 1950.

By the time Tugwell came to Puerto Rico as governor, in short, he was already deeply involved in island affairs, and though much of his time was devoted to the peculiar details of a wartime administration, he managed to develop and fight for a reformist legislative program. He wanted a statistical bureau and, building upon it, a planning agency with power to control land use. He wanted a development bank to complement the planning agency by making capital available to private investors, and he wanted state-owned factories in key undeveloped industries like cement, glass, paper, clay products, and shoes. He wanted public utilities owned by the public, not by private investors. Most of all, perhaps, he wanted civil-service reform, wanted to replace patronage with merit.

Despite his warm and mutually respectful relations with Muñoz, then the head of the legislature, Tugwell's program fared no better than Knapp's. The island's Canadian-owned utility company was finally forced to sell its holdings, and a statistical office was set up. But civil-service reform proved impossible: the opposition was too strong. The development bank was set up but used as the government's bank, while a half-dozen state-run enterprises were unprofitably built and operated. About 1950 they were sold to private investors.

The insular legislature did approve the creation of Tugwell's planning agency, for which he had high hopes. Some hint of what the agency might have accomplished, had it functioned as Tugwell wanted, is suggested by a comprehensive plan for Puerto Rico's agriculture published by the USDA in 1953. By then, of course, the New Deal was ancient history, and little is said in the plan about land tenure and nothing at all about controlling private land use. But the report does recommend major Tugwellian programs of federal land acquisition, of submarginal cropland retirement, and of diversification into food crops. "Almost everywhere in Puerto Rico," it begins in the New Dealer's voice, "there is a lack of consciousness as to what constitutes proper land management." It recommends that 600,000 acres, or a fifth of the island, should be productive forest, but it points out that the actual figure is only about 100,000. To remedy this shortfall, the plan recommends federal purchase of more than 400,000 acres, to be incorporated into the Caribbean National Forest. Another 600,000 acres are judged by the authors of the report to be cultivable, but farmers are actually cultivating 750,000 acres. A retirement program is therefore prescribed, especially for sugarcane grown on hillsides unsuited to the crop. Finally, in an echo of Knapp, there should be diversification: there is no reason why the island should import food, should use seven-tenths of its cultivated land for cane and coffee.

These are the sorts of things that Tugwell's planning agency might have set as its goals, but the legislature from the first day of the agency's existence

restricted it to urban areas. Valuable work was done to help plan the traffic system of greater San Juan, but the agency was never able to address the kinds of issues that Tugwell had hoped it would. Prompted perhaps by the agricultural devastation that had peopled the slums of San Juan, Tugwell spoke angrily of the prohibition against rural land-use planning as "a wholly inexcusable--indeed an indefensible--exception."

The plan's recommendations would have been considered radical in the 1930s, and by 1953 they were positively otherworldly. Indeed, the mystery is not that the report was left on the shelf but that the plan's authors could have been so unaware of what was going on in the Puerto Rican economy by the time of their study. They declared that "Puerto Rico is an agricultural island and agriculture undoubtedly will continue as the backbone of the economy for a long time to come." Yet six years earlier, and working with a Tugwell protégé named Teodoro Moscoso, Tugwell had secured passage of the Industrial Incentives Act of 1947. It was a pivotal piece of legislation, exempting from taxation the profits made from goods manufactured in Puerto Rico and sold on the mainland. This law set Puerto Rico on the course of development that would make the island famous as an example of rapid industrialization. Moscoso himself would go on during the Kennedy administration to head the Alliance for Progress in the State Department. His credentials had been established. With factory jobs pushing wages up, however, agriculture in Puerto Rico would collapse within a generation.

The Industrial Incentives Act was known as English as Operation Bootstrap, but it was not truly a bootstrap operation: until energy prices jumped in the 1970s, some \$600 million of mainland investment money poured into the island each year. (After that, the figure declined to about \$400 million annually.) Moscoso himself has recently acknowledged that free entry to American markets was another ingredient of success. He gives credit as well to Muñoz for overcoming the island's deep fatalism, and to Tugwell's statistical agency for providing research assistance. No matter how the act's success is explained, the results were plain to see. In 1947, nine companies established plants on the island; 16 came the next year; 83 came five years later. Within a decade the island's gross domestic product of 1947 had doubled. Industry, which contributed about 10% of the island's income in 1940, today contributes more than 60%.

The change was visible by 1953, especially in San Juan. Historically confined to the peninsula terminating in the great walls of La Fortaleza, the city had already begun sprawling onto a hinterland today occupied for miles round by factories. Low-wage clothing industries came first, but as minimum-wage laws came into effect they were followed by higher-wage industries such as electronics, petrochemicals, and pharmaceuticals. (Some 90 pharmaceutical manufacturers presently operate on the island.) Even more remarkable than the growth of San Juan was the development of factories in remote areas, where the tax exemption lasted for 25 years, compared to 10 in San Juan. The

result was that today there are factories not only in San Juan and Ponce and Mayaguez but in the most out-of-the-way places. At Guanica Bay, for example, not far from the old South Porto Rico Sugar refinery, there is a Hanes underwear plant.

The sugar refinery, meanwhile, is just rusting metal. The reason is not hard to find: in 1950 some 40% of the island's labor force worked on farms; today the figure is 3%. It is astonishing: there are only 30,000 farm jobs left on the island, and only 2,000 of those are in cane. The great crop crashed from 300,000 acres in 1950 to 190,000 in 1970 and 85,000 in 1980. Today fewer than 50,000 acres are grown. Old fields are abandoned to weeds and acacia saplings; irrigation ditches run merrily to waste; loading cranes sit in the middle of old fields, while kudzu winds through their trusses.

The Land Authority still owns about 100,000 acres. That's a lot, but the agency never touched the excess holdings owned by individuals; it restricted itself to the holdings of corporations. Even so, it bought only about half of the island's 170,000 acres of corporate land, partly because Congress refused to appropriate funds. Tugwell had hoped that USDA funds might be made available. They were not, nor would the State Department support the program, lest relations with other Caribbean islands be damaged. The insular government was forced to rely upon revenues from its own rum tax. By 1945 it had ceased buying land.

The authority abandoned the proportional-profit farms long ago: when on a visit to a local office I asked how long ago, two employees rolled their eyes as if I was descending into deep antiquity. Today, the authority rents land and technical services to farmers who want to grow vegetables with drip irrigation, and it offers technical advice. Yet most of the island's vegetables are now imported. So is fruit, even bananas and plantains. Many of the wonderful lines of coastal coconuts are left unharvested: only a quarter as many trees are picked today as in 1970. Astonishingly, most of the molasses needed by the island's rum manufacturers is imported. By far the most valuable agricultural commodity produced in Puerto Rico these days is milk.

This almost complete inversion of a traditionally agrarian society would have astonished Knapp and Tugwell, as well as the authors of the 1953 plan, but it does have its bright side. Photographs taken of the island in 1940 show a land worn bare, a land on the edge of death. (Tugwell's memoir of Puerto Rico is called *The Stricken Land*, and although he leaves the title unexplained, he seems to be referring as much to "land" in a literal sense as to "a land" in the political one. The ambiguity itself is Tugwellian, reflecting Tugwell's rooted belief that land and life are inseparable.)

That devastated island no longer exists: the island is green with new forests that have covered the old abused farmlands. The forest has grown up so closely

around the houses that line the island's twisting roads that they look more like country retreats than farmsteads. Indeed, that is just what they have become.

And that is not the only bright side of Puerto Rico's modern economic history, for nobody today would dare to defend the poverty of the old agrarian life. It may be true that factory jobs never increased as rapidly as factory profits. It may be true that the Puerto Rico's social problems have been defused by the right of Puerto Ricans to move freely to the mainland and to receive federal transfer payments. (Those payments rose from about a tenth of the island's income in 1950 to a third in 1980.) Yet even the Puerto Rican independence party dares not speak of a clean break from the United States. The electorate would not tolerate such a thing, not an electorate accustomed to walking into a grocery store and picking up a Sara Lee cake or a bottle of Welch's grape juice. Even with a program calling for gradual separation, the party in recent years has won less than a tenth of the votes.

All the same, and praising Muñoz' accomplishments as we may, Muñoz himself knew that something had gone wrong in the years after Tugwell. I think of a beach near Rincon, north of Mayaguez, and of a nearby snag on whose leafless limbs a dozen pelicans sat, every now and then setting out to glide over the breakers and dive for fish. Their necks were held back, cocked as it were; then, almost too fast to see, their heads were thrust forward at the moment of impact, perhaps to gain a bit more speed. Why did the birds congregate here, at this one point along the lengthy beach? The answer was plain enough: signs warned of polluted waters, and 50 yards away was a sewage treatment plant.

The sight is symbolic of a broader change that has come to Puerto Rico.

Muñoz had set out to help millions of his people. He succeeded in lifting most of them out of a peasantry that their parents had thought ordained. Yet if Muñoz had been asked to define his "ending end," he might well have said, like Seamon Knapp and Rexford Tugwell before him, that he wanted to make his people into "citizens," not in the legalistic sense of the word but in a deeper one. He had not done that. Instead, he had succeeded in elevating his people (and "elevating" may be the wrong word here) into consumers. In an ironic sense, Muñoz had Americanized his people.

Like Knapp and Tugwell, Muñoz knew that people should be more than creators and consumers of goods and services. Like Knapp and Tugwell, he knew that people are reduced when they are not to some degree responsible for guiding the development of their society. That was the democratic ideal that Knapp and Tugwell had fought for, even if both men said less about democratic institutions than building a civil service of competence and integrity

Knapp and Tugwell, in short, had helped give Puerto Rico a head start in confronting the most important problem every modern democracy nation faces:

how to combine true citizenship with the pursuit of technological efficiency. Muñoz had abandoned that quest. He had left matters to an elite. He knew it, and his bitterness occasionally showed: he would say that the choice of rapid industrialization had forced him "to allow 300 sons of bitches to become millionaires."

Perhaps he hoped that social issues could be addressed once Puerto Rico's economic needs had been satisfied. Perhaps they can: it's really our only hope. But the great critic Matthew Arnold hoped much the same thing more than a century ago, when he spoke of the mental life that might flourish once hunger was satisfied. The world has yet to turn that way. Instead, progress and development become indistinguishable from economic progress and development, from sheer material agglomeration. Everything else--the things that mattered to Knapp, Tugwell, Matthew Arnold, and Muñoz himself--gets swept aside in the rush to satisfy what turns out to be an insatiable appetite.

Perhaps it was somewhere in old San Juan, close to the Ralph Lauren factory outlet, that I remembered a conversation some years earlier in Manila. It was a business lunch at the Asian Development Bank, with a group of middle-level professionals who wanted to know, almost as soon as we shook hands, how I defined development. I said that I was content to define development as money in people's pockets. Was it the right answer? Nobody chose to argue me, perhaps because they were pleased that my views were sound or perhaps because they saw no point in suffering a fool.

\*Revised 2004 but not updated from the version published in Focus (39:2), Summer 1989, pp. 27-33.