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WHAT PRICE WATER MARKETING?
Mason Gaffney

Abstract
(To be supplied.)

Introduction: The Price Demanded

Thirty-five years ago the champions of water marketing were few and forlorn; now many and mainstream. Then they had to double-document for the captious while still dramatizing for the apathetic, a delicate load to balance; now they enjoy uncritical support. Success is welcome, but invites haste and hubris, letting two dangerous riders hop on the bandwagon. One is breathless market fundamentalism (Anderson, 1983; Moore, 1991; Moore and Quinn, 1984).¹ The other is opportunistic use of the first to institutionalize subsidies, and extinguish common rights in the course of firming up alienable titles to property.

Wahl, in full frontal assault, declares that "...subsidized water supplies have become property rights ... Rather than ... reduce the subsidies ... policymakers should ... make the current property interests in ... water more secure and allow voluntary market trading ... " (Wahl, pp. 3, 5).² The same policy earlier "was hailed by the Environmental Defense Fund, ..." (Levin, 1988). Angelides and Bardach (1978, p.33) reassured readers that their "water bank concept protects farmers from losing water they now have, and from paying more money for it." In numbers, that means some water-takers would continue forever paying only \$3.50/af for what it costs the taxpayers \$60/af to deliver, and they may sell for \$400/af and up as demand rises. In the Palo Verde Valley it means landowners who pay nothing to take raw water from the Colorado River may sell it, as they are now doing, to the Metropolitan Water District for \$620 per year per acre fallowed (Hyduke, 1992; Lambert, 1992). This paper asks if the gains of marketing are worth such inequity, and if they may be secured otherwise.

¹Phelps, Moore, and Graubard, 1978, and Jaquette, Moore, and Lipson, 1978, are more tempered.

²Wahl is silent on the standing of those who have been getting water for excess lands in violation of Federal law. His clear implication, however, is in their favor on all points. This is no small matter. For example, Southern Pacific Land Co. owns 81,200 acres in the Westlands Water District alone (Villarejo and Redmond, p.46). Boswell has 24,000 acres. Both these firms have larger holdings elsewhere getting more subsidized water.

The Potential of Water Marketing

1. The Potential: Water as a "Yield-cutting substitute"

Critics of marketing fret that locales losing water may become unproductive, losing jobs, taxes, and secondary benefits of farm suppliers and processors. There are cases in point. However, water-losing locales are more likely to gain than to lose secondary benefits. That is because losing surplus water will actually raise yields on many farms where water is used as a "yield-cutting substitute" -- a term I coin for lack of standard theoretical vocabulary to recognize this important phenomenon. The productivity of water is often found not in higher yields, but in lower labor and capital costs. These raise net rents (and let landowners enjoy "the quiet life") in spite of lower yields.

It follows that less water per acre may mean more output per acre, an uncommon and momentous relationship. Farmers cannot squander high-priced water on barley, alfalfa, rice, irrigated pasture, or other thirsty uses with low marginal dollar yields.³ High-yielding tree fruits, vines, and vegetables actually use much less water per acre, and less yet with laser leveling and drip systems. A number of fairways and cemeteries and phreatophytic industries would also give way to higher-valued urban uses.

The above potential gains are sometimes aborted by the all-or-nothing methods of major water buyers. The California Water Bank uses annual "fallowing contracts" for administrative ease (Howitt *et al.*, 1992). The Metropolitan Water District of Southern California (MWD) also uses fallowing contracts in the Palo Verde Valley (Hyduke, 1992; Lambert, 1992). More commonly, it simply buys land outright and idles it to secure all its water (Warren, 1991), the same crude method used to dessicate the Owens Valley 80 years ago (Ostrom; Kahrl, 1982). In 1988, the Castaic Lake Water Agency "bought nearly all the land in Devil's Den Water District ..." simply to get the water (Lambert, 1992).⁴ If water marketing is to reach its potential, buyers must take just the marginal and surplus water. Otherwise, some farm-dependent towns and businesses and consumers may indeed weep their losses. With economical transfers, on the other hand, farms can release marginal water while still maintaining or raising farm output by using more of other inputs. Consumers, farm suppliers, farm workers, and county treasuries will thrive. Even in the worst

³Dean's Committee, 1968, p.48.

⁴Adding rent-seeking to crudeness, it bought in advance of its own speculative water needs. Meantime, "Castaic leases the land to a farmer, ..." (Lambert, 1992).

case, however, secondary benefits are not destroyed: they move with the primary benefits, and increase with these as water moves to higher uses.

2. Legal avenues to marketing

There are legal barriers to marketing water, but also ways around them. California Water Code Sections 1700-05 spell out procedures for transferring water claims; *Wright v. Best*, 1942, is a leading case (Hutchins, 1977, Vol. III, p.191). (Changing place of use is easier than changing points of diversion.) In 1940 the Madera I.D. sold its water filings on the San Joaquin River to the U.S. Bureau of Reclamation (USBR) for the Central Valley Project (CVP) (Downey, p.6). Such pooling and banking goes way back: it was the essence of the comprehensive State "Marshall Plan" of the 1920s that devolved into the present CVP. Galloping urban sprawl in southern California has been watered by progressive urbanization of indigenous farm supplies. Mutual Water Companies' shares are transferable, varying with their by-laws: some of them let buyers move water outside the original service area (Gaffney, 1961).

CVP water filings by the USBR were never attached to specific lands. This plan includes urban water supply (Gaffney, 1960, 1967), which has grown over the years. In the 1977 drought there was active banking along the California Aqueduct (ironically, from south to north, and from urban to farm use) (Angelides and Bardach, p.17; Robie, p.49). In 1977 Congress authorized the USBR to broker water sales (Robie, p.49; Saliba and Bush, p.113; Wahl, pp. 136-38). In 1991 California's Department of Water Resources (DWR) ran a water bank. Where there is a will, there have long been legal ways.

Unsurmounted Obstacles to Marketing

In spite of means, motive, and opportunity, the market is virtually paralyzed. The publicity given the few deals actually done testifies to their rarity. Imperial Irrigation District has agreed to transfer a small part of its large surplus to MWD, but this deal has been in the making for some 40 years, and no water is expected actually to be shifted until 1995, even if nothing goes wrong (Warren, 1991a).⁵ Even if not, a few telegenic deals do not make a market, whose genius is the mass of prosaic local and short-term deals. Thus Santa Barbara and Marin County, after

⁵The amount proposed for transfer, 100,000 a.f., is only about 3% of the nearly 4 m.a.f. taken by irrigators on the lower Colorado, California side.

six years of drought, have been unable to get the short-term water they now want.⁶ What is locking the water market?

1. Integral nature of water districts

Trading Water Company shares has been customary in the Kaweah Delta. Thirty years ago, optimistic marketeers hailed this as the market solution at work, but it would be prudent to observe the results in the field. Trading has resulted in Balkanized, overlapping, money-wasting, water-wasting, cross-hauling distribution lines and service areas that stagger belief, and have locked the Delta into stasis (Gaffney, 1961). This is the consequence of forgetting that water distribution is a natural monopoly; an umbrella district is needed. Marketeers have not learned this lesson, and met frustration. In 1991, Assemblyman Katz moved to let individuals sell without approval of the water districts that serve them (Ellis, 1991b; Ellis, 1991c). This tracked a major RAND recommendation (Phelps, *et al.*, 1968). Unlike Katz' earlier water marketing bills, it failed.⁷ Such a change would subvert the integrity of district distribution systems, as in the Kaweah Delta, and as is happening again in Palo Verde Valley (Gerald Davisson, Palo Verde I.D. manager, cit. Hyduke, 1992).⁸ It would not tap a new artery, but a scatter of capillaries.

2. Undermotivated Sellers

A major flaw in the market is that sellers are undermotivated. Real estate brokers succeed by seeking out the motivated sellers: in the water market, there are few to find. There is an economists' creed that people respond to opportunity cost the same as to cash cost. Sometimes they do, but this stands mainly as a testament to how faith can make theorists see what is not there. In real resource markets, cash drains are what move sellers.

Districts with surplus waters have holdout power, quite unlike producers rushing to market with ripe fruit or obsolescing

⁶In Santa Barbara in 1989 there was a six-year line-up for water for detached homes; twelve years for multiple units (Evans, p.2). They themselves have avoided acquiring permanent supplies, to stifle growth.

⁷This bill died in the Senate Agriculture and Water Committee in mid-August, 1991 (L.A. Times, 26 August 91).

⁸Water districts have prospered by serving compact blocks of land, thus minimizing conveyance costs (Henley, 1969; Gaffney, 1969). Forced inclusion of lands in the service perimeter is at the heart of irrigation district history, economy, and success.

computers. Water flows are perpetual; demand keeps growing. Cash holding cost is zero because water permits are (with rare exceptions) free of property tax or severance tax. Thus our water economy is chronically afflicted with "The LDC Disease," a condition of resource-market concentration and lethargy that prevails in LDCs where tax rates on land approach zero. The writer has discussed elsewhere (Gaffney, 1992) how tax sticks are needed to supplement the carrot of selling price. Taxation is legally feasible, because a water license is not real property, hence free of the Proposition 13 tax limits.⁹

3. Precarious tenures

Another factor is the "general reluctance" of growers to sell water, because it would create "the perception that there are surpluses ..." (Rob Leake, PR officer of the Westlands Water District, cit. Levin, 1988.) Those with precarious tenures know they are insecure, and tiptoe accordingly. The writer has a paternal interest in the point¹⁰, yet deplores how narrowheartedly some writers now belabor it. It fits too neatly the "New Resource Economists'" panacea, firming property rights by fiat. This sounds simple and easy when you waive aside distributive justice, and ignore malallocation caused by entitlements, credit rationing, and rent-seeking. We examine these below.

Leaks in the Market System

The market rationale fails when applied only partially. In fact, the water market leaks like a sieve. The true price of marketing would be sealing all the leaks, a worthy but major enterprise. Some major leaks are unpriced withdrawals, uncosted effluents, and unexpressed demands.

1. Unpriced Withdrawals

a. Unconstrained Pumping

⁹Water licenses are privileges. On such wordplay do mighty legal issues turn. Congress passed the corporation income tax in 1909, before the 16th Amendment, as a license fee for the privilege of incorporation.

¹⁰The point is raised in Gaffney, 1961, pp. 38-40, who called it the "heirloom attitude"; attacked in Trelease, 1961, who called the reasoning "subliminal"; and defended in Gaffney, 1962. The point is also observed independently by Phelps, et al., 1978, p.28.

No one can charge an economic price for surface water when landowners can take groundwater free. For example, excess landowners, supposedly denied Federal water in and around CVP service areas, routinely gain from recharge others pay for. CVP contracts "declare that such water shall not be considered as furnished by the project" (Ivanhoe v. McCracken, 1958, p. 296-97). Again, Kern County irrigators keep expanding onto new desert lands, overdrafting, and petitioning Sacramento for "emergency" aid: a Treadmill Effect (Gaffney, 1992). In their view, "The existence of overdraft in the southern San Joaquin Valley does not indicate an 'unmanaged' situation, but only the absence of an adequate supply of supplemental water ... " (Weatherford, p. 1038).

This treadmill started in 1913 when Los Angeles tapped Owens Valley to recharge aquifers in its San Fernando Valley, where insiders had bought up land before annexation.¹¹ MWD keeps the treadmill turning now. Its Directors press for more water sources, ration and lay guilt on their median customers - then annex new desert lands to water, promoting urban sprawl, enriching land speculators, and raising per capita water use. "It's hard for the public to understand ... " explained Lois Krieger, Board Chair, as MWD approved another drought-year annexation (Metzler, 1991).¹² A month later she proposed making more water available for farmers (Bankole, 1991). She has MWD maintain a "balancing fund" to avoid peak-load pricing (Krieger, 1991).

The Coachella Valley (Palm Springs) gets scarce water pumped in from the overclaimed Colorado River, recharging its aquifer. Landowners then pump it free, watering artificial lakes, country clubs and subdivisions rapidly expanding in the blistering desert (Warren, 1991). This makes no sense economically, but helps one understand what has happened, and why it cannot continue.

b. Loss of Elevation

Rice growers deny using much water "consumptively," they return a big share of their heavy withdrawals to the river. On that ground, however, any water user could cite the Law of Conservation of Matter, and disclaim using any water at all, or anything else. It all returns to nature. In those terms, we

¹¹The episode was popularized in Polanski's film Chinatown, so the scenario is often called the "Chinatown Syndrome." There have been many "Sons of Chinatown" since 1913.

¹²"'I weep for you,' the Walrus said; 'I deeply sympathize.' With sobs and tears he sorted out those of the largest size, holding his pocket handkerchief before his streaming eyes." -- Lewis Carroll

consume nothing, we just turn it into garbage; but who wants garbage? Return flows are dissipated, lower, and ill-timed.¹³ August water held on rice fields is worth more than September water released from them.

"Non-consumptive" is a term of art, advantageous to rice growers and, above all, power companies. Power drops are non-consumptive, even though they generate more dollars than all other uses. In multi-purpose dams there are always trade-offs between power and water supply. A market that prices one, but calls the other non-consumptive, gives false signals.

2. Uncosted Effluents

All return flows are degraded; some are deadly, as at Kesterson. Runoff from the little Wellton-Mohawk Project near Yuma doubles the salinity of Colorado River water entering Mexico (van Schilfgaarde, 1982). The huge, well-placed Chino Groundwater Basin "is currently untouchable because of poor quality ... contaminated with nitrates, byproducts of animal waste and fertilizers from the dairies and other farms in the area" (Salamon, 1991).¹⁴ Runoff being a non-point source, no simple market analogue solves these problems. Even with clean runoff, every irrigation opportunity is also a drainage problem, usually for someone else. Again, no simple market solution seems available; systemic solutions have been offered elsewhere (Gaffney, 1988-89).

3. Unvoiced Demands

Environmentalists see economists as ignoring or trivializing their demands for clean air and water, instream uses, recreation, fishing, wildlife, saltwater repulsion, amenities, drainage, public health and vector control, aquifer management and protection, sustained resource supply, watershed protection, and conservation (Hadly, 1990). Too many economists are guilty as charged. Economics, properly pursued, is systems analysis. It deals with meeting all human wants, not just those met by salable products in cans and bottles. Many economists, however, think

¹³Power companies, of course, are the greatest consumers of elevation. The tax on water "withdrawals" proposed herein would include a tax on power drops. It has often been alleged that power companies used "pigmy dams" to preempt power drops while underutilizing them (Legislative Analyst, 1957, p.8). If so, the proposed tax, based on putative full development, would prompt such development.

¹⁴Heaping irony upon misfortune, these redolent mounds in an urban area result from preferential low assessment of farmland, to enhance the environment.

only of maximizing GNP measured in the narrow, old-fashioned way developed to mobilize resources for World War II. Many mistake false precision for science, and screen fuzzy extra-market values out of their pretentious, pseudo-scientific symbolic logic. Colleges of Agriculture foster a mindset where the only objective function is farm land value: damn the cost to fish, wildlife, and the taxpayers (Knapp and Vaux, Jr., 1982)¹⁵. Buchanan and Tullock (1975) help rationalize such an attitude.

a. Waters with common access are undervalued: example of fishing.

Demand for open-access waters is not communicated through the market. A recent river study prescribed sacrificing the fishery to a proposed power project because the "rent of the fishery has been dissipated by the tragedy of the commons." The gross catch is only enough to pay the fishermen their putative opportunity cost; dry up the fishery and nothing is lost.

That says we should remove water from the use in which it is most scarce, precisely because it is scarce. This violates the basic law of variable proportions. The crowding of a resource means the marginal value of water added to that use is extremely high. In terms of redressing unbalanced factor proportions, adding water has the same effect as subtracting fishermen, which the writer would have approved.¹⁶ In the absence of any market avenue for fishermen to express their need for water, planners should find non-market surrogates for market value. In this time of growing unemployment, too, it is worth remembering the previous Great Depression when it became customary in project analysis to enter labor at zero social cost.

b. Demands deflated by dispossession

¹⁵The authors, using technical curlicues as camouflage, actually base their findings on a political premise: no pump tax should be considered unless the result is to raise overlying farm land rents and prices. Their model is tailored to the west side of Kern County, province of giant landowners whose political influence, and opposition to pricing water use, are heavy.

¹⁶The good instinct behind the point is that access to fisheries needs constraining. That much of the work is valid; too bad it took a wrong turn.

Economic analysis has to presume or prove something about who owns water.¹⁷ Economists today are drilled to think distribution of resources doesn't matter, only allocation does, but this defies reasonable belief. "Entitlements" - the initial assignments of property rights - have a major effect on the relative bargaining power of different parties, and on whose preferences prevail in the market. Modern "Contingent Valuation" studies bring this out sharply. When the pollster asks canoers their willingness-to-pay (WTP) to keep a river wild, they give low valuations; but when asked their willingness-to-accept (WTA) money to let their river be dammed (assuming they own rights to use the wild river), canoers give much higher valuations. Many theorists are disturbed that "received theory" has "been unable to explain ... the persistently observed differences between WTP and WTA measures" (Cummings *et al.*, 1986 p.41). Could it be that "received theory" was received damaged?

Survey respondents who say WTP >> WTA tell us that distribution dominates allocation, damaging The Coase Theorem which implies it doesn't matter how you assign entitlements so long as they are firm. In the Coasian world, resources end up allocated the same, no matter who starts the "free market" game with all the chips, because WTP = WTA.¹⁸

Contingent Valuation surveys have done a service to bring out this fatal flaw in Coase, but everyday observations do nicely, too. One is not surprised when someone says "My home is not for sale at any price, don't call again." She can take that attitude because she holds the title. Never does a buyer say, "I will pay any price, here is my signed check, fill in the amount and date at your pleasure." There are many instances of a person swearing under oath his land is worth no more than \$X for tax assessment purposes, and soon thereafter swearing again it is worth \$15X when being condemned for a park or other public use, because he wouldn't sell it for less.

Knetsch is one of only a few to challenge careless over-interpretations of the Coase Theorem in resource economics (Knetsch, 1989, 1990; Kahneman, Knetsch, and Thaler, 1986, 1990, 1991). Much of "modern" micro-economics, dominated by Coasians,

¹⁷In Ivanhoe the USSC rejected the doctrine that the state holds water in trust specifically for excess landowners (357 U.S. 296). In Sporhase it rejected the use of trust doctrine to stop interstate transfers. Neither decision seems to have inhibited the flowering in the 1980s of the public trust doctrine to protect instream uses. In all three cases the courts sorted things out as well as I could ask.

¹⁸For a flagrant example of the genre see Wahl, p.130. Coase himself guarded his flanks better, at least pro forma.

is actually ancient, a throwback to the old Manchester School. "Free trade in land" was their panacea for all resource problems - free trade beginning from unequal entitlements based on conquest, corruption, politics, fraud, and very little of John Locke (who based property rights on labor). Exchange launders all. Allocational outcomes depend entirely on consumer tastes, independent of entitlements.

Respondents whose WTA >> WTP are simply "aberrational" (Mitchell and Carson, 1981). Among these pesky aberrationals are the aboriginals. Some tribes have Treaty Rights to fish. Their WTP for those rights is minimal, partly because the hypothesis they must pay for what they now own implies they are broke and cannot buy. On the other hand, their WTA presumes their Treaty Rights are valid. Wealth possessed is the power to purchase the wealth, and more. Indians may mean it when they say they will not sell "at any price." They may be unreasonable, but that's the point: ownership lets you be as unreasonable as you please, and call it consumer sovereignty and "revealed preference."¹⁹ We notice mainly when it is someone else, especially someone different.

Indians are not so different from other Americans. A survey of rural Hispanics in Taos and Questa, N.M., found 80.6% were "Opposed and don't want to sell (water)." Only 6.1% answered yes to "Would sell if price is right" (Brown and Ingram, p.79). These are very poor people with very expensive water. Most Americans' ancestors, actually, stem from rural communities holding lands in common in trust for their descendants. These traditions linger in the culture, creating values that a good economic system must respond to. Mechanistic micro modeling today disregards them. The answer to Coasians is, "If entitlement doesn't matter, give it all to me." That forces a response. Most of them seem bent on extinguishing common rights for the sole benefit of landowners, reversing Ivanhoe and completing the enclosure movements begun in the 16th Century.

Realistically, entitlements dominate allocation. They determine for whose benefit resources are allocated, and who can

¹⁹It was 1974 when a survey first showed WTA >> WTP, "in contradiction to received theory." Ever since, techies have been torturing the data to confess otherwise (Mitchell and Carson, 1989, pp. 37-38). Property defenders are threatened. Their criterion for acceptable policy changes is based on Pareto's notion that you mustn't deprive a rich landowner to help a thousand starving orphans because you can't compare their subjective feelings. When we acknowledge common birthrights, the shoe is on the other foot. Now you can't pollute anyone's air or water because the victims own the property, and may be as unreasonable as any other property owner.

afford to control the means of production and exchange, and receive the gains of their appreciation over time. While princes and wise men come and go, the major landowners of today are remarkably similar to those of 1939 (California Agricultural Background, 1939). Entitlements also determine who has the discretionary means to dominate politics, and determine for whose benefit subsidies are given and market efficiency is breached; to dominate education and affect, if not entirely determine, for whose benefit ideas are bent and students are drilled.

4. False demands

The counterpart of ineffective demand from those without entitlements is inflated demand from those with them. Assuming static times, that alone would be enough to distort consumer sovereignty, but there are no static times. Demand is actually inflated much more by dynamic rent-seeking (or water-grabbing), to which we now turn.

Bismarck is often quoted that those who like sausages and laws should not watch them being made: let us add water licenses to Bismarck's list. Libertarians tell us simply to firm up property rights and the market will provide. They may see, but they fail to observe the endless process of firming up, wherein rent-seeking inflates and advances demands. Rent-seeking presupposes state giveaway of public domain, without which there would be no rent to seek; yet most New Resource Economists allow no process but giveaway to privatize resources.²⁰

Scarce waters, where demand exceeds supply, yield rent. Abundant waters are expected to become scarce and yield future rents. The acquisitive eye sees what is needed today to claim future waters: to take water and use it on your land. It is a perquisite proportional to landownership. In practice, any use passes muster; landownership and taking are the de facto requirements. Local water boosters call this "foresight," and hail it as a cardinal virtue.²¹ The doctrine of "prescriptive rights" is even more perverse. Here, ownership is established essentially by "adverse use," i.e. interfering with others.

²⁰Vernon Smith wants to give away "water deeds" based on histories of pumping; Terry Anderson wants to give them away in proportion to land ownership (Terry Anderson, 1983b, pp. 101-02). Firming up titles by actually charging money seems taboo.

²¹Riverside Mayor Davison boasted that "Riverside's water use doubled during my term of office" (1941-48). He deemed it an achievement. (Patterson, 1991) It reminds one of the University Chancellor whose pride was to have created four new Vice-Chancellorships at high salaries.

Once claims are established, the winners are positioned to seek subsidies to multiply the value of the claims. Many have deplored "pork-barrel" subsidies to contractors who take Federal water. An additional subsidy has crept in by substituting water "banking" for water "marketing." Banking means a State agency buys water at a firm, high price, and risks selling for less or not at all. This is the fate of the California Water Bank (Bowman, 1990). Late in August, 1991, after five years of drought, at the peak of seasonal water shortage, MWD was selling bank water at a huge loss, at bargain winter rates, water it contracted for earlier. The water went into ground storage (Muir, 1991). Ground storage is a traditional route whereby small users cross-subsidize large ones (Fellmeth, 1973, 168; Teitz and Walker, 59-67). Pumpers pay nothing, and benefit in proportion to overlying acreage.

We need not give away unearned increments to get water transferred to higher uses. A policy of taxing water withdrawals, based on the opportunity cost of water, will do the job without giving away the benefits (discussed in Gaffney, 1992). That does mean our own governments must assess the market value of water. It's that or rent-seeking. Thus far the choice has gone to rent-seeking. Many economists complain about sacrificing allocative efficiency for distributive equity; here it is for inequity. The results are neither just nor efficient.

Tempering Economics to Environmentalism

Environmentalists are understandably skeptical of flawed market proposals structured to their disadvantage. Combat between economists and environmentalists weakens both needlessly: they should be natural allies. First we identify convergent interests; second, how economists can accommodate environmentalists' views while bettering their own. This entails economists' disclaiming extreme market anarchism, acknowledging community values, and helping implement common rights.

1. Economists and Environmentalists, Convergence of Interests

Rationalizing water use, the proper aim of economics, is inherently conserving. For example, southern California's Santa Ana River rises naturally in an area of intense water shortage, and astonishingly costly water imports. If we put this well-sited resource to its highest and best use, it would obviate massive water imports, and the associated environmental damage. Instead, senior claimants pay nothing to take water from this river, which they deliver by gravity for a trivial variable charge. Customers regard water as nearly free, and apply it carelessly using cheap, Archaic furrow irrigation. However, the true social cost of withdrawing water is the cost imposed on

others by preempting it from them. "Value is but an expression of exertion avoided" (George, 1898, p. 249). The Federal Energy Regulatory Commission (FERC) has made good use of this concept, making electric utilities buy co-generated power from independent sellers at a price equal to "avoided cost."

Slack use of local waters, in arid areas of high demand, creates the demand for imports. The resulting hydro-imperialism is the common enemy of Sierra Clubbers and economists. "You have no right to stop growth" truly declaims the builder; but the counterpart is we have no duty to subsidize growth. Water supply projects are heavily subsidized. In the Santa Ana Valley, the true social cost of imported water is over \$2,000/af at the margins of the system²². If there were a market where I could sell my canal shares for a tenth of that price I might, but there isn't, so I don't. If there were a price at one-tenth of that amount I would surely not buy, but there isn't, so I do. Thus local waters are used carelessly while environments are degraded, the State treasury overdrafted, and the victims blamed.

Subsidy usually generates waste, at least in the amount of the subsidy. If it is a subsidy to withdraw water it also makes water scarce, and impairs habitat, where nature has given us plenty for both man and biota. On the lower Colorado River no one pays a dime for water at the source, but all get public aid for pumping it away. No wonder there is a shortage. The USBR had to spend years even finding takers for water pumped up to Phoenix in its multi-billion dollar Granite Reef Aqueduct. Such dubious ends are served by impairing natural habitat, preempting scarce water, and pretending it costs nothing.

We have also shown above that we must, to make the market whole, include groundwater and loss of elevation in the price system; respond to demands for open-accessed uses; and face the issue of non-point pollution from runoff. All these economic ends converge with environmentalists' demands.

2. Distributive Justice and Environmentalism

Marketeers promote water trading as a "win-win" activity. By Paretian logic, that is helpful to some and damaging to none. However, the slogan leaves the losers, the unlicensed majority, out of the game. What we lose is beneficial public ownership of water. Every sale of existing licenses creates another "innocent purchaser" to firm up property rights, i.e. to sanctify the seizure of rent-yielding public domain by powerful individuals, corporations, and the "public" water districts they control,

²²Considering both subsidies and the sum of cross-subsidies within the State system, the regional MWD, and local systems (Gaffney, 1982).

borrowing sovereign powers and immunities for private gain (Goodall and Jamieson, 1974; Goodall *et al.*, 1978; Hall, *et al.*, 1979; Goodall, 1991; Bradley *et al.*, 1981). Such markets warrant the judgement that "... markets reflect and reinforce the existing distribution of water rights and wealth. ... " (Saliba and Bush, p.252). Such markets automatically deflate-by-dispossession the demands of those who are turned out to firm up the property rights of others, and of those who, like boaters and bathers, just enjoy using water without having to own it.

It is not just common water that is thus traded away; it is continuing cash subsidies attached to the water. We have cited Wahl *et al.* that these subsidies should be perpetuated as "property rights." The swindle is so obvious you'd think no one could support it with a straight face. "Because I was robbed yesterday, ... is it ... any reason ... that the robber has acquired a vested right to rob me?" (George, 1879, p.365). Once you deny George's point and buy into the premise that usage creates property, no extension of the tradition is too absurd, transparent or outrageous to follow. The fisher is to be taxed to pay the landowner to steal his water.

Thirty years ago, the pioneers of water marketing did not condone subsidies and the environmentally destructive projects they feed. "... the large gains achievable by merely making better use of supplies in hand may indicate postponement indefinitely of vast new engineering wonders (which) may be taking on many of the characteristics of national 'pyramids'..." (Hirshleifer *et al.*, 1960, pp. v, 252). They deplored "redistribution of wealth from taxpayers to beneficiaries," who would "band together at the expense of the taxpayer" (*ibid.*, p. 253). As the State careens toward bankruptcy this bears new emphasis. Dam-damning environmentalists and budget-minded economists should mutually support each other.

New Resource Economists have wound themselves into fatal contradiction. To replace government by the market, these writers would make subsidies the basis of their system. They would make every boondoggle, every giveaway engineered through corrupt legislators and supple administrators into a property right, binding taxpayers forever.²³ Consistently, they would have also to bind taxpayers to subsidize farm price supports and exports, maintain tariffs, cross-subsidize low farm power rates, finance cow-college R&D tailored to big landowners, hold down wage rates, permit pesticide pollution at existing levels, etc. ad inf. This is the absurd outcome of the property-right panacea. Every state giveaway becomes a sacred cow the taxpayers must feed forever. Every environmental invasion becomes a

²³This is the main policy thrust of the otherwise scholarly, useful study by Wahl, 1989 (pp. 3, 5, 295, et passim).

permanent easement over the victims' lands and lives. That includes future giveaways and invasions. Rent-seekers would demand these with augmented motivation, and added power from added discretionary funds.

"Win-win" is a good slogan, but no amount of happy talk can blot out the rest of the truth: no one taps the Treasury or grabs the public domain without hurting everyone else. Claim-grabbers and subsidy supplicants stigmatize property and alienate environmentalists. Water marketing is a great idea, but to make it work we must accommodate community values. Neither the Sierra Club nor the courts will sit still for extinguishing them. We have discussed elsewhere one way to have both: withdrawing rent-bearing water should be subject to a user charge (Gaffney, 1992). This way Seller wins, Buyer wins, and Public wins, a "win-win-win" deal.

Going beyond that, taxation alone is not enough to give full voice to environmental and common demands. It meets the need where resources are tenured for efficient administration. Many instream uses are untenured, and should remain so; common rights are satisfied via direct access and use. Ordinary economic analysis is bent against valuing such uses. We love our "exclusionary principle" and firm property rights. We see tragedy in commons, with none of their peculiar benefits and social satisfactions. We are trained to denigrate the very values wilderness clubs hold dear. Instead, economists must adapt to the facts that distribution dominates allocation, and that common users of open waters come not as trespassers but part-owners. Their WTA, not WTP, sets the value, and $WTA \gg WTP$. "Most studies find that the WTA responses greatly exceed the WTP answers. ... people loudly say one thing and the theory asserts another. ... the practitioners of contingent valuation elected to listen to the theory, rather than to the respondents." (Kahneman, Knetsch, and Thaler, 202-203). Let us begin our reform by listening to the respondents.

Summary

To be added.

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