

NEWS-EDITORIAL TREATMENT OF SMELTER EMISSION CONTROL
CONTROVERSIES IN ARIZONA AND MONTANA

by

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ABSTRACT

The supposedly greater vulnerability of smaller newspapers to external economic influence was tested by examining the news and editorial treatment by two daily newspapers of parallel and related controversies in widely separated states. The Montana Standard of Butte was compared with the Tucson Daily Citizen of Arizona, twice its size, for editorial position toward, and news and feature coverage-display-illustration of, attempts by copper companies to obtain easier anti-pollution regulations from the state and federal governments. The newspapers gave identical percentages of available news space to the events occurring from August, 1971, through December, 1972. Despite the much greater dependency of the Butte area on the copper industry's prosperity, both newspapers were shown to have been opposed editorially to easier regulations and substantially impartial in reporting and explaining the controversies. While not disproving the concept of vulnerability, the study does delineate a clear exception, suggesting further, more refined research.

CHAPTER 1

INTRODUCTION

Small newspapers have long been suspected, and sometimes openly accused, of catering to the wishes of their advertisers and even to non-advertising industries whose fortunes buoy community prosperity.

The logic put forward has been that the small newspapers' "shoestring" budgets render them vulnerable to economic pressure or threat of pressure, direct or implied.

But is this concept of vulnerability dependable? Can a large newspaper always withstand economic pressure on its editorial policies and journalistic standards better than a small one?

Put another way, will a small newspaper be more likely than a large one to align its editorial and news treatment of events with the interests of a major corporation in the community?

In particular, if these interests appear to conflict with something as fundamental as the physical well-being of the community's residents, which newspaper--the large or the small--is more likely to insist on the good health of the residents?

Parallel events in the widely separated states of Arizona and Montana during 1971 and 1972 provided an opportunity to seek answers to these questions.

The recently-created federal Environmental Protection Agency (EPA) was in the process of encouraging and pressuring every state in the nation to promulgate air pollution control plans and standards.

Arizona and Montana had not waited for such direction. The boards of health of both states (Montana in 1967 and Arizona in 1970) had issued strict regulations on, among other things, the amount of sulfur dioxide allowed to escape from copper smelter smokestacks.

When in August, 1971, the EPA issued guidelines to the states for establishing standards on the allowable levels of emissions, the wording appeared to the copper firms to permit less strict standards than those Arizona and Montana had set.

Soon afterward, therefore, copper firms in both states petitioned the boards of health to ease the regulations. The events of the rest of 1971 and all of 1972 encompassed (1) refusals by the health boards to do so, (2) submission by the governors to the EPA of air pollution control plans that omitted entirely any references to sulfur oxides from smelters, (3) the surprise ordering of strict standards by the EPA when easier standards had been expected,

and (4) subsequent legal challenges to the strict EPA standards by the copper companies.

The present study centered on an analysis of the news and editorial treatment of those events by the Tucson Daily Citizen in Arizona and the Montana Standard in Butte.

If the concept of the vulnerability of small newspapers to economic influence were reliable, the smaller Montana daily could have been expected to give the copper firms' position more favorable treatment than could the Arizona newspaper.

Especially could this have been expected if, as was the case, there were a greater economic dependence in Butte than in Tucson on the profits of the copper firms.

There was, additionally, the fact that until 1959 the Standard had actually been owned by the Anaconda Company and had, in fact, been created by the company's founder to serve him in his struggle against another copper baron for political and economic dominance.

CHAPTER 2

THE NEWSPAPERS

The Citizen recently observed its centennial, and the Standard will shortly do so. Both have survived a succession of owners and editors and over the years have perhaps been affected as much by their localities and surrounding cultures as by management decisions.

The Tucson Daily Citizen

The Tucson Daily Citizen was first published on October 15, 1870, as a four-page weekly under the name of the Arizona Citizen and the editorship of John Wasson (Schellie, 1970). At that time, Tucson was the capital of Arizona Territory, created only a few years previously, in 1863.

The area was devoted chiefly to agriculture and trade. Wasson was outspoken on behalf of civic improvements to the frontier town and of stern measures against Indian attacks on settlers, supply wagons, and prospectors.

In 1877, the capital was moved to Prescott. That may have been a major influence in Wasson's decision to sell the Arizona Citizen to John P. Clum, whose chief

contribution was to change the weekly into a daily newspaper two years later.

The paper changed hands many times subsequently, always being privately owned and always growing steadily with the growth of the city. Its name became the Tucson Citizen in 1901, eleven years before Arizona was admitted to the Union, and it received its present name on January 1, 1929.

Today the Citizen, owned and published by William A. Small, Jr., appears every afternoon except Sunday, with a circulation of approximately 60,000. The city itself is fast approaching 300,000 in population, and the Citizen must compete for readership with the morning Arizona Daily Star.

The Citizen has its own one-man state capital bureau in Phoenix, articles being transmitted to Tucson by Xerox Telecopier. The Citizen also has the wire services of the Associated Press, United Press International, and the Los Angeles Times/Washington Post News Service.

News play on Page One and other key news spaces inside is decided at a regular morning conference in the managing editor's office. Sitting in are the two associate managing editors, the news editor, the city editor, the state editor, and the picture editor. The wire editor remains working at his desk but sends in a list of the most important wire stories of the day.

Queries about articles on the mining industry, Managing Editor Dale Walton said there has been no special policy on writing or displaying them, that they are judged by the same criteria as for other news. This was supported by Business Editor Richard Wilbur, who makes most of the contacts with the mining firms. Charles Burkhardt, now copy desk chief but state editor during the study period, said no editorial strictures were placed on him about the selection of wire articles, from either the national services or the Citizen state bureau, that concerned the mining industry.

The Montana Standard

The Montana Standard was purchased from the Anaconda Company by Lee Enterprises, a Midwest group, in 1959 along with 11 other Montana newspapers (Editor & Publisher, 1959). It was the first time the Standard was not directly linked with the industry to which it owed its birth.

Although the Standard dates itself from 1876, that birthday actually belongs to the Butte Miner, later absorbed by the younger Standard. The Miner appeared on the scene with the revival of Butte's fortunes through silver mining after an initial discovery of placer gold proved unrewarding. The silver mining was soon superseded by intensive copper mining, assuring the area's prosperity.

A personal animosity sprang up between two copper barons that led to fierce business and political rivalry. Williams Andrews Clark had purchased the Butte Miner in the 1880's, and he used it to attack Marcus Daly in a battle over the state capital after Montana was admitted to the Union in 1889. Daly wanted the capital to be established at Anaconda, 26 miles northwest of Butte, where he had built a large smelter. Clark preferred to have the capital at Helena, where he had more influence.

Clark's newspaper campaign led Daly to retaliate by creating his own newspaper, the Anaconda Standard, in 1891. Although Helena did, in fact, become the capital by popular election in 1894, the Standard flourished, soon outstripped the Miner in circulation, and became, by the turn of the century, one of the best edited dailies in the country (Toole, 1959).

It continued a potent weapon against Clark's political aspirations until Daly's death in 1900. Its ownership then passed to his widow, from whom it was purchased in 1913 by the Anaconda Company (Time, 1931). In 1928, the company also purchased the Butte Miner from Clark's heirs to silence the paper's criticisms.

The Miner was combined with the Butte edition of the Anaconda Standard to form the Montana Standard (Ruetten, 1960). Three years later the Anaconda Standard became merely a four-page section of the Montana Standard (Time,

1931), and today it appears only as a three-column standing signature over assorted local news from the Anaconda community, on an inside page.

Ruetten describes the stultifying effect on Montana journalism of Anaconda Company ownership, for so many years, of the newspapers it finally sold to the Lee group. There was among the editors, he says, "a condition of unprecedented rapport, right thinking and 'togetherness' on many subjects, especially political."

From fierce invective in the 1920's, the Anaconda Company papers switched in the 1930's to omission of any reference to political opponents, even during election campaigns. Villard (1930) wrote, "Its [the company's] newspapers continue to boost all their friends and ignore their enemies, and they are silent about all the really vital issues."

But would new ownership bring a change? At the time of the purchase, the Lee group announced to the readers, "Each Lee publisher and editor calls the turns as they see them; there is no such things as dictated editorial policy. . . . The only policy each [newspaper] follows is to help improve its community" (Editor & Publisher, 1959).

Today the Standard, published every morning except Sunday, has a circulation of approximately 23,000. Its chief markets are Butte (population 23,400), where it is still printed, and Anaconda (population 9,800), where it

maintains a correspondent. It is connected by teletype-writer with its state bureau in Helena, which also serves other Lee newspapers in Montana. The Standard is a member of the Associated Press and subscribes to the New York Times News Service.

News play on Page One is arranged by consultation between the editor, the city editor, and the wire editor, with the editor usually initiating the talk. Responding to questions, Editor Bert Gaskill said there is no special policy on articles about the Anaconda Company, but he "tries to make sure these are prominently displayed since Anaconda is the top employer." Neither is there, he said, any policy or set of precautions set by the Lee group on the treatment of such articles.

"Objectivity and fairness are the first order in the newsroom," Gaskill said, but he added that lack of cooperation by the Anaconda Company has sometimes hindered the Standard's efforts to give fair and objective news to the public.

He said the requirement that the public relations staff in Butte clear every news release through the company's headquarters in New York and the Tucson headquarters of the primary metals division "creates undue delays." He expressed hope this would be remedied, "especially since Anaconda now has a vice president-public relations in Tucson."

CHAPTER 3

THE MINING COMPANIES

Six states in the nation produced 97 per cent of the total production of copper in 1971--Arizona, 54 per cent; Utah, 17 per cent; New Mexico, 10 per cent; Nevada and Montana, 6 per cent each; and Michigan, 4 per cent. The remainder came from Tennessee, Missouri, Colorado, and Idaho (U. S. Bureau of Mines, 1973).

However, the differences between Arizona and Montana, and between Tucson and Butte, are greater and more complex than the differences between their production percentages. And it is Butte, not Tucson, that is more closely linked to the fortunes of the copper industry.

The Beginnings

Geography and history are inextricably related, and this is especially evident in the early events in Arizona and Montana. Tucson lies in a valley ringed by mountains in southwestern Arizona's Sonoran Desert, at an elevation of 2,400 feet. Hot in the summer months, it seldom experiences freezing temperatures in winter and thus is attractive for agriculture. This was even more so before population growth created a demand for water that competed

with the irrigation of farms. Not surprisingly, it was settled much earlier than the Butte area.

For Butte, in contrast, is situated close to the Continental Divide at almost 5,800 feet amid the Rocky Mountains in western Montana. This, coupled with the fact that snow comes very early in the fall and leaves late in the spring, discouraged early settlers, who preferred the lower grasslands in the eastern part of the state. It took the lure of possible riches to populate such rugged country.

Arizona's Early Years

Tucson was a long-established Indian village when the Jesuit Eusebio Francisco Kino visited it from Mexico in 1692 and started a mission there. It eventually became a Spanish village and in 1776 was walled as a presidio under the protection of Spanish troops. Mexico gained its independence from Spain in 1822, and the Mexican flag flew over Tucson until the Gadsden Purchase of 1853 and the arrival of United States troops (Schellie, 1970).

The locale attracted settlement simply because it was an easily accessible valley with a supply of water and protected by a circle of mountains. Later it became a crossroads for supply wagons, moving settlers and troops and an agricultural center. Mining in the surrounding mountains was sporadic because of the danger from Indians.

There is a record of it being done at Ajo as early as 1790, and Father Kino wrote of silver prospecting in 1705. Not until the mid-1800's, however, when federal troops imposed an Indian reservation system, did major discoveries of copper deposits begin to occur (Arizona Department of Mineral Resources, 1963).

The advent of the Electrical Age in the 1880's, with its demand for copper, stimulated Arizona to develop its mining industry on a large scale (Levy, 1968). The completion of railroads across the state at about the same time facilitated production and distribution. The state has led the nation in copper production since 1910 (Arizona Bureau of Mines, 1962).

Montana's Early Years

Although Montana had long been open to fur trading, most of the settlements were established in the eastern, less rugged part of the state after Lewis and Clark explored the area in 1805. Montana became a territory in 1864, at about the same time that news of gold strikes sent prospectors flocking to the mountains in the state's western end. One place occupied was Silver Bow Creek, near where Butte is situated today, but by 1867 the cluster of log huts that was Silver Bow Town was being deserted (Raymer, 1930).

Silver was discovered near Silver Bow Creek, however, and mining activity resumed. William Andrews Clark bought interest in several mines in 1872. These included the Colusa Mine, from which was later taken the first copper ore to be shipped out of the state--to Baltimore for treatment. By 1877, silver mining was highly profitable in Butte. In the next six years, the famous Alice Mine alone would yield more than \$4,000,000.

The Anaconda Mine, from which the corporation was eventually to take its name, was first developed in the 1870's, but early evidence of high copper potential was not substantiated until 1882 by the discovery at the 300-foot level of a wide vein of copper. Holding a quarter interest in the Anaconda was Marcus Daly, an Irish immigrant who was soon, along with Clark, to become one of the area's copper kings.

Seeking a place to build a smelter to treat his copper ore, and encountering a water shortage in Butte, Daly chose the northern bank of Warm Springs Creek. By 1884 the smelter was complete and the town of Anaconda was rising around it, tents giving way to more permanent construction where previously there had been only a cow pasture (Burlingame and Toole, 1957).

The new industry boomed, until Montana led the nation in copper production. It held this position until

1910, when it was finally overtaken by Arizona (Arizona Bureau of Mines, 1962).

Mining's Economic Impact

Some statistics on population for Arizona and Montana provide an introductory insight into the different relationships between the two states and their industries.

Arizona is more densely populated than Montana-- 15.6 persons per square mile in contrast to Montana's 4.8. Arizona has more than twice as many residents--1,771,000, ranking 33rd in the nation, in contrast to Montana's 694,000, ranking 43rd. More importantly, Arizona's population increased by 228,000 in the decade 1960-70, whereas Montana experienced an exodus of 58,000 (U. S. Bureau of the Census, 1972).

The unemployment rate for those who remained has been higher in Montana--6.9 per cent in 1971, in contrast to 4.5 per cent in Arizona. The per capita income in Arizona in 1971 was \$3,871, the state ranking 26th in the nation, while Montana's per capita income was \$3,479, the state ranking 35th. (The national average that year was \$4,138.)

These figures can be interpreted to demonstrate less economic stamina in Montana, or, conversely, greater dependence on the health of the separate members of the business world.

In this regard, it is significant to note that in 1971 only .8 per cent of the non-agricultural employees in the nation were in the mining industry, but in Arizona and Montana the percentages were 3.6 and 2.5 respectively. A closer look at each state reveals even more apparent dependencies.

Arizona

Copper leads all other mineral production in Arizona by far. The gross value of copper production in the state in 1970 was \$1,059,277,000, or 90.7 per cent of the gross value of all mineral production in Arizona that year.

This was less than half of the gross value of manufacturing (\$7,300,000,000) but more than twice that of agriculture (\$647,344,000), according to the Arizona Statistical Review (1971).

Unlike the copper industry in Montana, centralized geographically and dominated by a single corporation, Arizona's mines are scattered across the state in seven counties and are operated by more than a dozen companies.

However, of the approximately 918,000 tons of copper produced in Arizona in 1970, approximately 846,000 tons, or 92 per cent, were produced by eight companies: Phelps Dodge Corporation, 28 per cent; Kennecott Copper Corporation, 13 per cent; Magma Mining Company, 12 per cent; the Anaconda Company and Duval Corporation, 9 per cent each; American

Smelting and Refining Company, 8 per cent; Inspiration Consolidation Copper Company, 7 per cent; and Pima Mining Company, 6 per cent (U. S. Bureau of Mines, 1972).

Tucson

Pima County, of which Tucson is the county seat, led in tons of copper produced in Arizona in 1970, with approximately 336,000 tons, or 36 per cent of the state total. It was followed by neighboring Pinal County, with 26 per cent, so that more than 60 per cent of the state's total output was produced in those two counties (U. S. Bureau of Mines, 1972).

Despite its agricultural beginnings, therefore, Tucson is in the heart of the most concentrated cluster of Arizona's copper mines. Within 50 miles of the city are nine of them, operated by seven companies. One, the Twin Buttes Mine, is the only one in Arizona operated by the Anaconda Company.

At the time the study began, eight smelters were located in the state. The most distant of these from Tucson was the Phelps Dodge Corporation's smelter at Morenci, 180 miles east. Closest to Tucson was the Magma Copper Company's smelter at San Manuel, 50 miles northeast. During the study period, Magma increased its smelting capacity at San Manuel and closed its smelter at Superior, leaving seven smelters in the state.

Pima County will have received \$7,800,000 in taxes from mining firms in 1973, or 8.3 per cent of the county's total tax bill of \$94,143,530 (Pima County Assessor's Office).

Although there is no mineral production in Tucson itself, approximately 7,000 residents in the metropolitan area are employed in mining, most of it for copper (Arizona Statistical Review, 1972). These represent approximately 6 per cent of all those employed in the area.

In the state as a whole, there were 21,000 mining employees in 1971, or 3.6 per cent of the total of non-agricultural employed (U. S. Bureau of the Census, 1972).

Thus, although there are no taxable copper mining properties in the city aside from offices, Tucson benefits indirectly through the personal income of mining employees and the profits of city firms doing business with the industry. There is also the larger interdependence on the industry's contributions to the economic health of the state.

Montana

Copper production in Montana does not dominate mineral production as much as it does in Arizona. In 1970, the gross value of the state's mineral production was \$313,016,000. Of this, copper production accounted for \$138,955,000, or only 44 per cent, in contrast to 91 per

cent in Arizona. For in Montana, copper has to share importance with petroleum, which accounted for \$105,403,000 in gross value of production in the same year, or 34 per cent of the state total. In Arizona, petroleum's value was only .05 per cent of the state total (U. S. Bureau of Mines, 1972).

While not for the same year, the 1969 gross value figures for agriculture and manufacturing give a rough indication of copper mining's economic rank in the state. In 1969 the value of all farm products sold in Montana was \$569,000,000; the value added by manufacturing was \$359,000,000 (U. S. Bureau of the Census, 1972). Agriculture easily ranked first in Montana, manufacturing second, and copper mining farther down the line. In Arizona, manufacturing led by far and copper mining was securely in second place, far ahead of agriculture.

By contrast, however, nearly all of the approximately 121,000 tons of copper produced in Montana (13 per cent of Arizona's output) was produced by the Anaconda Company in the Butte-Anaconda area.

Butte-Anaconda

In Butte, the Anaconda Company employed 3,400 persons in 1970, or 14.8 per cent of the city's population (New York Times, 1970). In Deer Lodge County, of which Anaconda is the county seat, approximately half of the

county's labor force of 4,000 worked at the Anaconda smelter in 1968 (New York Times, 1968). The county's population was 19,000, that of Anaconda approximately 9,000.

There are now approximately 5,900 persons employed in Montana's mining industry, or 4.1 per cent of the state's total non-agricultural employment of 141,000 (U. S. Bureau of the Census, 1973). In Deer Lodge County, however, approximately 1,100 workers are employed in mining (mostly at the Anaconda smelter), or 33.6 per cent of the 3,330 persons employed in the county. In Silver Bow County (Butte), approximately 3,500 are employed in the mining industry (3,300 Anaconda employees in Butte alone, according to the Standard of May 21, 1972). This is 31.3 per cent of the 11,200 employed in the county.

In both counties, in other words, a full one-third of the labor force is employed in the mining industry, and most of it by one company, in contrast to the 6 per cent in the Tucson metropolitan area in Arizona, employed by several companies.

Tax figures show a similar pattern. In 1972, the Anaconda Company and all its subsidiaries paid \$3,253,018 in taxes to Silver Bow County, or 28.1 per cent of the county's total tax bill of \$11,589,496.

Because of the labor strike in 1972, much of the mineral production in Silver Bow County was lost. Consequently, that year the Anaconda Company paid no net proceeds

tax, which is based on the value of gross mineral production. In 1970, however, the company paid a net proceeds tax of \$15,000,000, in 1972 it paid \$12,000,000, and in 1973 it was to pay \$5,200,000.

In Deer Lodge County, the company and the BA&P Railway, a subsidiary, paid taxes of \$1,605,068 in 1972, or fully 50.7 per cent of the county's tax bill!

The Ailing Anaconda Company. It is apparent that the continued economic health of the Anaconda Company was, and is, basic to the prosperity of Butte and Anaconda. A copper strike in 1967-68 crippled both communities. The New York Times reported in February, 1968, a Butte unemployment rate of 41 per cent. Sales were off 7 to 20 per cent in Butte and 15 to 30 per cent in Anaconda. Many businesses cut their staffs.

That strike lasted eight and a half months. In July, 1971, another industry-wide strike idled 7,000 workers in Arizona and 6,100 in Montana, approximately 4,600 of them in Butte and Anaconda. Arizona's smaller mining communities experienced hardship during the 59 days of the strike, but Tucson did not suffer. The Citizen reported on July 28 that sales tax revenues there had actually increased over those of a year ago.

In Montana, the strike lasted 79 days. According to the Standard, Butte churches held prayer services in

hopes of a settlement, while business felt patronage drop off. A Page One headline on September 18, the day of settlement, announced, "Butte Breaths Sigh of Relief." In the Standard's January 2, 1972, traditional year-end rating of the year's state news, the strike topped the list.

But strikes end. More fundamental at the time of this study was a concern for the soundness of the Anaconda Company's long-range finances. On February 6, 1972, the Standard published across the bottom of its editorial page a reprint of an article in Forbes business magazine describing at length the economic straits of the mining firm.

The recent seizure by Chile of Anaconda Company holdings there had removed two-thirds of the company's copper production and three-fourths of its earnings, according to the firm's new president, John B. M. Place. Bad management had spread the firm's interests beyond hopes of adequate returns, the magazine declared, and there was fear the company might not be able to meet its debts.

Forbes reported that Place faced "one of the most difficult corporate rebuilding jobs in history" (1972). Among cost-cutting steps were a 50 per cent reduction in the New York headquarters staff, cutbacks in the work force across the country (including more than 600 jobs in the

Butte-Anaconda area after the 1971 strike), and the planned shutdown of the zinc plant at Great Falls, Montana, by mid-1972.

The Anaconda Company was in the black again by the end of 1971, but "prospects for internal growth are limited." Forbes speculated that, once the company's affairs were put in order, it might be sold to a more profitable firm, or it might sell some of its undeveloped properties (1972).

The Forbes article had not yet appeared when the Anaconda Company president testified at a hearing in Helena on December 16, 1971, that the company was already spending \$30,000,000 on environmental controls at the Anaconda smelter and that to meet Montana's strict standards would cost an extra \$22,000,000. As reported in the Standard, President Place said plans for expansion could be altered if the extra expenses had to be incurred. (State and federal officials took issue, saying that the costs could be passed on.)

On February 11, 1972, almost a week after the reprint of the Forbes article appeared on the Standard's editorial page, there appeared, as if to underscore the situation, a Page One article on net losses of \$8,752,000 reported by the Anaconda Company for 1971. They were compared with 1970 earnings of \$68,092,000. Blamed for the losses were the expropriation of holdings in Chile, the

labor strike, pollution control problems, and a metal market that had gone "soft" during the year.

The Butte-Anaconda Landscape. If the figures reveal the Anaconda Company's economic stature in Anaconda and Butte, it is readily apparent to the eye as well. Over the giant smelter works at Anaconda looms a 585-foot-tall smokestack, and the hill on which Butte sits was for decades dominated by mining superstructures leading to the immense network of tunnels below.

But the hill is dwindling with the switch in 1955 from underground mining to open pit mining. The huge Berkeley pit--a mile and a quarter long, a mile wide, and 1,000 feet deep--is gradually eating away the eastern section of Butte and is now within four blocks of the center of town. Mining firms in Montana have the right of eminent domain, and the Anaconda Company has advised Butte officials to move the city while there is still time to do it in an organized way. City-hired consultants outlined a plan in 1970, but so far there has been no decisive action.

It was in these sharply contrasting physical and economic settings that the Citizen and the Standard published their news and editorial views of the controversies between the mining interests and those who favored strict regulatory legislation opposed by those interests.

CHAPTER 4

THE ANTI-POLLUTION LEGISLATION

Through legislation passed in 1967 and 1970, respectively, Montana and Arizona required the copper firms to keep fully 90 per cent of the sulfur dioxide waste from smelters from escaping into the air through the smokestacks.

They did this even though the EPA had established standards for ambient air only--that is, air outside the smokestacks, at ground level and beyond the boundaries of the companies' property.

The legislation in both states was in reaction to recent and specific events, but popular support for it was the product of a slowly-accumulated concern.

Growth of Popular Concern

Air pollution had been studied and warnings raised in engineering and scientific journals for many years but without becoming a national issue, although an occasional article on the subject appeared in more popular periodicals.

The early focus had been on smoke and dust. St. Louis, for example, had long had a reputation for its smoky air. In a sampling reported in the Literary Digest in 1928, St. Louis led all other major cities in particulate

matter in its air, followed by Cincinnati and Pittsburgh. Los Angeles was not listed; smog was as yet unrecognized. St. Louis' problem was attributed to the use of southern Illinois soft coal in combination with fog from the Mississippi River lowlands (Time, 1940). It had had a smoke commissioner "ever since Lee surrendered."

Dust was always prevalent in mining areas. Dills and Darcey (1941) examined dust conditions where Oklahoma, Kansas, and Missouri meet and reported that the mining operators there, aware of the problem, were trying to reduce the amount of floating dust by wetting down the work areas.

There was also attention to the invisible components of air pollution. Noting the detection of a link between pneumonia and the smokier sections of Pittsburgh as early as 1912, Steel (1930) stated that unseen irritants to the nose and throat were now being recognized for their importance. Smoke abatement did not eliminate sulfur compounds, he said, and chemical methods to neutralize them, although known to be workable, had not yet been used at industrial plants. He called, even then, for air quality standards.

The Chicago Department of Health made studies from 1926 to 1928 on carbon monoxide. It concluded that "at times the air of automobile boulevards contains enough carbon monoxide to menace the health of those exposed over a period of several hours, particularly if their activities

require deep and rapid breathing" (Connolly, Martinek, and Aeberly, 1928).

But not until a mixture of fog, smoke, and fumes killed 19 persons in Donora, Pennsylvania, in late 1948 did the growing threat of air pollution command attention in the general news media and popular publications. The November 15, 1948, issue of Life magazine pointed to the high incidence of respiratory deaths in the small community clustered around the Donora Zinc Works, but added, "Donorans were cautious about getting tough with the industry that provided their living."

By 1960, Time was informing its readers that more than 10,000 communities in the United States had some degree of air pollution, most of it traceable to car exhausts. It reported that air pollution had been linked to cancer in laboratory rats. However, it added, more study was needed to prove London doctors right in their blame of air pollution for the high incidence of bronchitis in that city, where the word "smog" had originated.

There were, gradually, more alarmist titles like "Death In Our Air," which appeared in the Saturday Evening Post in 1966. The death of more than 100 persons during the London smog of December, 1962, made headlines across the country.

Montana Legislation

National attention to the need for legislative controls on air pollution was underscored by events beginning in 1963 in the Montana town of Garrison, 50 miles northwest of Butte. There the struggle by Garrison's residents to force the Rocky Mountain Phosphate Company to eliminate its damaging smokestack emissions containing fluoride turned into a public issue.

When it became apparent that state law offered no relief, a bipartisan anti-pollution bill was passed by the state legislature in late 1965 but was vetoed by Governor Tim Babcock, a supporter of industrial growth. Babcock was defeated in a Senate race the next year after trucks from his firm of Babcock and Lee were discovered making cargo calls by night at the phosphate plant (Merson, 1969).

Finally, the passage by Congress of the Amended Clean Air Act of 1967 permitted the federal government to intervene and conduct hearings which led to an agreement by the phosphate company to install anti-pollution equipment.

Such pollution may have been new to Garrison, and remote enough in the past not to have worried most Montanans, but it was an old and serious problem for Butte and Anaconda--and the old Anaconda Standard had been a champion of efforts to clean up the air.

Once the switch from gold mining occurred, Butte experienced an industrial boom. Soon seven smelters were situated at the base of Butte's hill, all spouting smoke. Even worse were the roasting heaps, each a block long, the width of a street, and seven feet tall, in which sulphide copper ore and logs were mixed and set afire to smolder for up to three weeks.

By 1890 the town and surrounding hillsides had been denuded of all vegetation. Visibility was so low that "carriages had to be driven slowly for fear of knocking down pedestrians. . . . Workers would lose their way going or coming from work. Many people experienced bleeding from their noses, and others vomited in the streets" (MacMillan, 1972).

William Andrews Clark, the copper baron, declared that the smoke killed disease germs and that the arsenic it contained gave beautiful complexions to Butte's women. But, MacMillan points out, the city health officer calculated that Butte's death rate in 1890 surpassed that of the previous year in Chicago and London and almost equalled that of New York and Paris.

In November, 1890, the Anaconda Standard joined the anti-smoke campaign and called attention to the harm done by smoke to the possibility of a real estate boom. It also publicized the solutions proposed by metallurgists, including the conversion of smoke to sulphuric acid (MacMillan, 1972).

The copper firms declined such a solution for the same reason to be expressed by them decades later in the emission control controversies examined in this study--there were no profitable markets for the acid. When the city council passed an ordinance in early 1891 to require smoke elimination devices and to prohibit heap roasting, the big Parrot smelter closed down and the council quickly granted a six-week reprieve from the ordinance that was never lifted.

A popular riot in December, 1891, forced a stop to heap roasting, and eventually, for economic reasons, only the smelter at Anaconda remained, but there was no further effective enforcement by the city against smoke.

MacMillan reports the Standard's wry assessment in February, 1891, that seemed to retain its applicability:

"It is evident that the smoke cannot be bluffed out of Butte. Bluffs don't go in smoke wars."

Benjamin F. Wake (1972), state air pollution control director, describes how the hazard to health continued. In 1902, arsenic from the Anaconda smelter smoke killed 625 sheep grazing 15 miles away, and horses grazing tainted hay at an even greater distance also succumbed. He refers to a study by the Montana Health Department in 1955-1965, showing unusually high death rates for cancer of the lung in Deer Lodge and Silver Bow Counties--46.2 and 35.7 deaths per 100,000 population, respectively, in contrast to the

national average of 20.5. This report stirred popular concern, and the Garrison case, coming to public notice at the same time, led to state legislation.

U. S. Bureau of the Census (1972) figures on the ten leading causes of death in 1968 show that both Arizona and Montana still had significantly higher death rates than the national average for bronchitis, emphysema, and asthma, but their rates for other causes almost duplicated or were considerably below the national average. However, Arizona's high rate for respiratory ills may stem in part from its long-standing reputation as a haven for out-of-state victims of these disorders because of its hot, dry climate.

In 1967, the same year that Garrison's residents received federal help, the state legislature passed the Clean Air Act of Montana which authorized the state health board to "establish the limitations of the levels, concentrations, or quantities of emissions of various pollutants from any source necessary to prevent, abate or control air pollution."

The health board promptly complied. One of its regulations set a June 30, 1973, deadline for existing copper smelters to prevent 90 per cent of the sulfur oxides produced in the smelting process from escaping into the air. The maximum possible penalty was \$1,000 a day for every day the limit was exceeded.

Arizona Legislation

Montana's legislation was given impetus by a state study of cancer death rates and the Garrison controversy, but it was a startling federal report which stimulated action in Arizona.

The Tucson Daily Citizen noted on January 15, 1959, that the state health department would begin sampling the city's air in reaction to a U. S. Public Health Service report the previous November that the air over Phoenix was more polluted than the air over Los Angeles. The federal measurement had been for particulate matter only, not smog, but Tucson was subsequently shown to have smog, too.

On January 23, 1959, the Citizen editorialized on the need for smog control, blaming most of it on car exhaust, and eventually a bill was introduced in the legislature for a two-year study of the matter. Passed by the House of Representatives, it was defeated in the Senate in March, 1961. Public concern in Arizona was not yet great enough.

It was not until 1970, in fact, that the Arizona legislature authorized the state health board to issue air pollution control regulations and establish standards for emissions (Amended Laws 1970).

In its Rules and Regulations for Air Pollution Control, adopted May 25, 1970, the health board limited copper smelter sulfur emissions to 10 per cent of the

original amount of sulfur fed into the process--the same 90 per cent control ordered by Montana three years previously. Arizona's deadline for compliance was to be May 25, 1973, with a possible one-year extension of the limit.

Federal Legislation

Federal action, meanwhile, had been slow in coming but by the time of the present study had become an important influence.

The Clean Air Act (U. S. Public Law 88-206), approved December 17, 1963, merely authorized the secretary of health, education, and welfare to "encourage cooperative activities by the states and local governments for the prevention and control of air pollution" It also authorized federal research on the problem, provided grants to support control programs, and outlined a lengthy process for exerting pressure toward compliance by the states and local governments.

In 1966, the Clean Air Act was amended by U. S. Public Law 89-675 (October 15, 1966), which simply increased the amounts of the grants and extended the life of the research and development programs previously authorized.

However, with the approval on December 31, 1970, of the Clean Air Amendments of 1970 (U. S. Public Law 91-604), the federal government called for the establishment by the

Environmental Protection Agency of national air quality standards and the submission by the states of air quality control implementation plans.

The EPA published the required standards on April 30, 1971, and, under the terms of the federal law, the states were therefore required to submit their implementation plans no later than January 30, 1972, with the EPA to pass judgment on them by May 31.

This was spelled out by the EPA in guidelines to the states which it published in the Federal Register on April 7, 1971. It was in these guidelines that the EPA included the statement which stirred the mining firms in Arizona and Montana to petition the state health board for easier regulations: "Provisions have been added to the original proposals, after hearings to encourage States to consider the socio-economic impact and the relative costs and benefits of the various emission control strategies which can be employed to attain and maintain the national standards" (Environmental Protection Agency, 1971).

This call for consideration of costs as well as environmental benefits was of vital importance to an industry with special stature in Arizona and Montana. The resulting controversies in both states continue today, but it is the performances of the Tucson and Butte newspapers in 1971 and 1972 to which this study now turns.

CHAPTER 5

METHODS AND RESULTS

The Citizen and the Standard were examined in two stages.

First, the editorials which pertained to the controversies over the copper smelter emissions controls were inspected for evidence of alignment with the copper firms' opposition to strict emissions standards.

Second, the news and feature articles and photographs pertaining to the same subject were inspected for evidence of such an alignment and of editorial direction toward such an alignment.

Additionally, the two newspapers were compared in both stages.

Methods

In the first stage, the editorials in each newspaper were arranged chronologically and examined subjectively, with three questions in mind:

1. Were any of the main events of the study period not discussed?
2. Did the editorials display a consistent position?
3. Did that position favor the mining industry?

Other columns and special articles on the editorial pages were also examined if they were considered to illuminate the newspaper's editorial position.

Physical measurements were deemed of no value in determining that position, and none was made.

In the second stage, news and feature articles were physically measured for both quantity of material and display received. The measurements are described under each of the six categories of comparison between the two newspapers.

In addition, the use of pictures, the inconsistencies in display, and the gaps in both information and continuity were assessed subjectively. Supportive descriptions are presented under each of those three categories.

Results

Editorial Attention and Position

During the study period, the Citizen published 16 editorials related to copper smelter pollution.

Four were ancillary issues: the county anti-pollution standards, which the Citizen pointed out were not applicable to smelters; the conflict-of-interest controversy over health board member William E. Naumann; House Bill 2339 providing for bonds to purchase anti-pollution equipment; and the proposed use of limestone to neutralize the smelting byproduct, sulfuric acid.

The other 12 editorials dealt directly with the debate over smelter pollution and how to control it. They reflected a consistent push for strong standards while encouraging reasoned discussion of the problem. Among them were the following:

On October 15, 1971, the Citizen reprimanded the mining industry for threatening relocations and curtailments. "The mining industry may have a case," the editorial said. "If it has, then it should be presented to the public in the most intelligent manner possible."

On November 23, 1971, the Citizen editorialized, "Most of Arizona's industrial pollution standards already are more restrictive than those enacted by the federal government. And any move to lower those standards--such as recent pleas by copper companies to relax smelter pollution regulations--should be fought by Arizona's pollution policing agencies."

But on January 6, 1972, the Citizen declared that, while an emissions standard was preferable to an ambient air standard because of the former's enforceability, there were the questions, "How tough should it be?" and "Is it necessary to remove as much as 90 per cent of the sulfur in the smelting process to assure the quality of Arizona's air?"

In an editorial on January 28, 1972, which urged immediate checks on automobile exhaust emissions, the

Citizen applauded the recent decision by the health board not to ease its regulations on smelters, saying, ". . . It has had the courage to stick to those standards, despite tremendous pressure from the mining industry to adopt new, less strictive rules."

But on February 2 it expressed indignation that the health board had submitted its air quality implementation plan to the EPA without any mention of sulfur oxide controls for smelters.

"Why the sham of a public hearing when the plan submitted to the EPA is far less restrictive than the one submitted prior to the hearing?" it asked, adding its concern that the EPA would now impose its own standards, which were expected to be much weaker than the old state standards.

On April 24, 1972, the Citizen praised a new plan of smelter pollution control proposed by the health board--less stringent emissions standards varying from plant to plant and coupled with ambient air standards. The Citizen called this a "reasoned approach" and a more flexible plan than the old "arbitrary," "technically difficult" and "extremely expensive" 90 per cent emissions control. It stated continuing concern, however, over enforceability.

On May 25, the health board repealed all emissions standards and adopted only ambient standards, which a Citizen editorial promptly labeled "almost meaningless."

It said that the board had succumbed to industrial demands and that the decision was "a clear victory for the polluting industries of Arizona." It expressed hope that the EPA would reject the new plan and substitute one more stringent and enforceable.

On June 2, 1972, accordingly, it praised the EPA for scrapping the state plan and announcing the EPA's own, surprisingly strict set of emissions standards.

"If pollutants are removed before the smoke reaches the surrounding air then there is no chance the air will be polluted. That is what the EPA is insisting on and that is what is best for Arizona," the editorial declared.

The last pertinent editorial in the study period appeared on December 4, 1972. The Citizen applauded the health board's decision to grant the Phelps Dodge Corp. more time to improve its smelter pollution control at Douglas. At the same time, it deplored the state's determination to impose only ambient air standards.

"The ruling is a victory for Phelps Dodge and the Douglas economy," the editorial stated. "But state acceptance of the closed loop (ambient air) method of pollution control is in no way a victory for air quality in Arizona or for Arizonans."

There were other expressions in the Citizen of editorial attitude on industries and pollution. A special article which appeared February 29, 1972, on the second

editorial page (called Perspective because of the variety of viewpoints printed there) dealt with President Nixon's recently proposed levy on sulfur dioxide emissions. The article, written by editorial writer Lawson Allen, who also was author of the 12 editorials discussed above, stated the tax would be useless in Arizona because of a loophole in the plan. That was the provision that the levy would not apply in areas where air quality already exceeded federal standards, which was the case in Arizona.

The article added, "If pollution is going to be curbed in Arizona, the state had best look to its own laws and air quality standards."

In his regular Saturday column, "At Week's End," Associate Editor Tony Tselentis discussed pollution controls twice during the study period, on February 9 and March 25, 1972.

The first column criticized the sudden approval in the Arizona Senate of a two-year delay in the deadline for smelter compliance with state clean air standards.

"If the reasonable answer to the problem at hand is to give Arizona's mines more time to comply with the emission standards, let's do so with full knowledge," Tselentis wrote. "The hurry up act produced in the Senate this week without public notice hardly seems the right way."

On March 25, Tselentis expressed satisfaction at the defeat in the House of Representatives of the Senate's delay measure. He also said that the mine operators' "belated concern for the American landscape has come only as a result of tremendous public pressure."

During the study period, a column was introduced to the Perspective page which presented the viewpoint of the mining industry. Intended to serve as a counterpoint to environmentalist opinions that might be expressed elsewhere in the newspaper, according to Associate Editor Tselentis, the column was written by Robert E. Holt, a Tucsonian and a mining consultant. It first appeared on September 28, 1971, and continued to appear about once a month. There were 21 columns in the study period, three of which discussed smelter pollution.

On January 26, 1972, Holt wrote that research had shown that "smelters contribute a small fraction of the measurable air pollution." He stated that the mining firms' warnings of curtailment and even close-downs were not idle threats and that "decades of neglect cannot be corrected overnight."

On March 29, 1972, Holt stated that the Phelps Dodge decision not to alter its smelter at Douglas was no surprise. He presented information intended to show that it would be economically unfeasible for Phelps Dodge to do otherwise. Holt expressed belief that the copper firm would

carry out its threat to close the smelter if the state insisted that the smelter meet state standards.

On April 26, 1972, Holt called for "a reasonable period of time" for the smelters to be altered or replaced, adding, "Pollution regulations must be relaxed to permit this continuation."

Holt's column was certainly not a contradiction of the Citizen's editorials, which clearly expressed willingness to give the mining firms reasonable time to meet pollution control standards. The editorials were firm, however, in insisting that there be strong, enforceable standards and that the best kind were those which controlled emissions.

During the study period, the Standard published 19 editorials on the subject of industry and pollution. All but three of these were directly related to smelter pollution and control standards. The three exceptions dealt with the need for economic development of Montana without economic exploitation, the existence of other polluters besides industry, and the stated ineffectiveness and unfairness of President Nixon's proposed tax on sulfur emissions.

The remaining 16 editorials consistently advocated continuing the state's strict emissions but allowing the Anaconda Company extra time--"perhaps a lot more time"--to comply with those standards.

The very first editorial on the challenge of the copper company to the state standards set forth this theme, on September 17, 1971:

If the [health] board concludes that its standards are necessary to protect the health of people in the smelter area, then it should not revise its standards downward, even if this means the company will have to take up an additional economic burden. There is good reason to believe, however, that if a health threat does exist, it is not an immediate threat. If the board agrees with that conclusion, it could, rather than revise its standards downward, give the company more time in which to meet the regulations.

The editorial then described the technical problems facing the company, particularly that of what to do with the smelter pollution control byproduct of sulfuric acid.

It concluded, "If the smelting companies are given sufficient time, however, a satisfactory method [of eliminating sulfur dioxide] will probably be developed."

On November 9, 1971, an editorial reported the concern of Benjamin Wake, Montana's clean air director, that the then more lenient guidelines of the EPA would undermine the state's tougher standards.

The Standard stated, "Perhaps variances allowing more time for certain industries to meet the standards should be granted, but the fact that the federal standards are lower than the state's is no reason for the state to soften its own requirements."

When the Anaconda Company presented its arguments to the health board, the Standard declared on December 20,

1971, "It was enough to convince us that the company deserves more time to meet Montana's standards--perhaps a lot more time."

But it added, "Nobody in the Butte-Anaconda area wants to see the company pull out--or be driven out. At the same time, we suspect that most people in this area would agree that the state government, not the company, should determine our air standards."

Opposing the company's petition to discard the strict state standards and adopt the more lenient federal ones, the Standard noted, "The hearing did not concern a variation. Yet, we think a variation is the answer here."

The health board announced on January 7, 1972, its decision not to alter the state standards. On January 12 it was commended editorially by the Standard for its "courage and foresight." The newspaper expressed hope "that the Board of Health will be lenient with the smelting firms should they seek variances. No Montana firm, however, should be allowed to operate outside standards set by the state indefinitely. A certain date must be set"

As was the case with the Citizen, the Standard editorials were not signed. On February 6, 1972, however, Publisher D. R. Campbell took the unusual step of signing his name to an editorial in which he traced the long

association between Butte, Anaconda, and the Anaconda Company. He stressed the economic problems of the company, which he said had "practically no money in the till." Therefore, he wrote, the company needed time "to get on its feet" before remodeling its old plants to meet pollution control standards.

Then Campbell made his main point: ". . . We feel the company should seek variances to get the time needed to meet the new standards instead of going directly to court in an attempt to overturn the state standards."

Across the bottom of the editorial page that same day was an article entitled "From Riches to Rags," reprinted from the January 15, 1972, issue of Forbes, a business magazine. It described the financial hardships of the Anaconda Company and the efforts of the company's new president, John M. B. Place, to overcome them. The article had been described earlier in a special article by Editor Bert Gaskill on the Standard's editorial page of January 14, apparently from an advance copy of either the Forbes article or the magazine itself.

The Standard opposed Governor Anderson's refusal to transmit the health board's clean air implementation plan to the EPA, calling his action "reprehensible." The Standard stated on February 17, 1972, that the answer to the governor's concern for the effect of such strict

standards on the economy of the state was to grant variances to industries needing them, not to weaken the standards.

On March 9, 1972, it suggested federal aid to help industries meet the high costs of controlling pollution, or perhaps tax-exempt industrial development bonds.

The Standard praised the Anaconda Company on June 14, 1972, for initiating a water recycling project that would end the pollution of Silver Bow Creek.

It added, ". . . The company's plans to build an experimental 'chemical smelter' which might end air pollution from copper extraction, lends weight to the assumption that Anaconda officials aren't being entirely cavalier in their attitudes toward clean air."

The Standard congratulated state officials on July 28, 1972, after the EPA issued regulations close to those proposed by the health board but sidetracked by Governor Anderson. But it reminded environmentalists of the cost of industrial compliance and urged either a federal subsidy or more time.

On November 6, 1972, an editorial commented favorably on a federal court ruling that the EPA must protect air quality in states where little pollution had occurred, through a "non-degradation" clause in the implementation plans.

The last editorial on the subject during the study period appeared on December 10, 1972, under the headline,

"Anaconda wins." The Anaconda Company had sued in federal court to enjoin the EPA from implementing its emission standards. The copper firm said the EPA had not permitted the Anaconda Company to cross-examine those who testified at the EPA's public hearings on its proposed standards on August 30, 1972. The court agreed and ordered another EPA hearing.

The Standard editorial began, "It's reassuring to know that a giant corporation can still obtain justice in the nation's courts."

While Publisher Campbell's editorial of February 6, 1972, had urged the Anaconda Company not to go to court over the standards, the editorial of December 10 made it clear that the Standard believed in fairness and agreed, with the judge, that the EPA had denied the company due process of law.

The Standard observed that the judge "also questioned giving the EPA the 'awesome power' to trifle with the company's corporate health and the financial health of its stockholders--a point well taken, since health is what pollution standards are all about."

In summation of their editorial positions, therefore, both newspapers were concerned for the continued well being of the copper firms but equally adamant that firm, enforceable clean air standards be implemented. Both were willing to grant the companies time and financial help

to meet the standards but not to grant the companies' requests for basic changes in the standards themselves.

Stated differently, the Standard did not differ essentially from the Citizen in editorial position on emissions standards for copper smelter pollution control.

News Space Usage

Because of their disparate sizes and resources, the use by the Citizen and the Standard of their news space was compared in percentages.

During the study period, the Citizen published 3,627 column inches of news related to smelter pollution, while the Standard published 1,780 column inches, or 49.1 per cent of the Citizen's output.

But during that same period, the Citizen published 23,866 pages (plus weekly comics), while the Standard published 10,072 pages (plus weekly comics). The Citizen's average advertising percentage for that period was 64.5; for the Standard it was 51.1. Thus, the Citizen's available news space averaged 35.5 per cent, the Standard's, 48.9 per cent. In actual space, the Citizen had the equivalent of 8,951 news pages, or 1,712,973 column inches of available news space. The Standard had the equivalent of 4,918 news pages, or 840,929 column inches of available news space. This was 49.1 per cent of the Citizen's news space.

Therefore, for the Citizen, its 3,627 inches of smelter pollution news represented 0.21 per cent of its available news space, while the Standard's 1,780 inches of smelter pollution news also constituted 0.21 per cent of its available news space.

Table 1 shows that the Citizen first had an upsurge of news in October, 1971, when Phelps Dodge petitioned the health board for easier standards and threatened a smelter shutdown. News again increased with the December, 1971, hearings on the emissions standards and did not taper off until July, 1972, after the EPA decided to write the standards for Arizona. (There was another flurry in September when the EPA conducted hearings on its proposed standards.) This central period of seven months contained many key events, but the amount of material published was also comprised of many between-event feature articles and shorter news stories.

For the Standard, news publication increased sharply in December, 1971, with the advent of the health board hearings and really jumped in February, 1972, because of the much-reported feud between Governor Anderson and the health board over the implementation plan. The amount tapered off in April, after the governor submitted an incomplete plan to the EPA.

The Citizen's profile of publication lacks an extreme peak similar to the Standard's for February,

Table 1. Use of Available News Space for Smelter Pollution News

Month	<u>Citizen</u>			<u>Standard</u>		
	News space (col. in.)	Smelter news (in.)	% of news space used	News space (col. in.)	Smelter news (in.)	% of news space used
<u>1971</u>						
Aug	93,159	62	.07	52,309	--	--
Sep	95,826	86	.09	45,773	53	.12
Oct	98,148	244	.27	50,579	20	.04
Nov	96,987	66	.07	50,417	85	.17
Dec	102,168	368	.30	51,955	220	.42
<u>1972</u>						
Jan	96,406	344	.36	47,999	120	.25
Feb	92,579	398	.43	46,819	660	1.41
Mar	101,688	281	.28	49,719	114	.23
Apr	97,610	394	.40	48,309	65	.13
May	105,071	274	.26	48,171	50	.10
Jun	103,759	383	.38	49,557	87	.17
Jul	101,244	172	.17	49,891	74	.15
Aug	102,749	122	.12	52,987	80	.15
Sep	103,953	214	.21	48,309	48	.10
Oct	109,564	83	.08	49,375	9	.02
Nov	104,533	80	.08	45,429	25	.06
Dec	107,629	56	.05	53,331	70	.13
Total	1,712,973	3,627	.21	840,929	1,780	.21

1972--more than 60 per cent more material than the Citizen's for February, also its highest month. But the Citizen's level is generally higher for a longer period of time, despite the Citizen's having to publish twice as much material as the Standard to maintain the same percentage of space used. This is probably because of the more extensive copper operations in Arizona and the larger size of Tucson, with their greater opportunities for news, and because of the greater resources of the Citizen itself.

Distribution of News by Display Categories

Taken alone, the quantity of news space used is insufficient indication of whether a news topic is being presented objectively. Another indicator is how that news is being displayed--whether it is being given prominence, either by typography or position in the newspaper or both, or whether it is being deprived of prominence. Of course, the importance of a given news event, its reader interest, and the nature of the other news of that day must be taken into account.

Because the Citizen and the Standard differed greatly in the sizes of headline type used and in other mechanical display devices, a direct comparison of their typographical treatment of articles would have been invalid. Display comparison was therefore based on the position of news and feature articles, both on a given page

and in the newspaper as a whole. The material measured was the same as that measured in the preceding section of this study.

Seven categories of display position were devised, in descending order of likelihood of attracting visual attention. These were organized into three main groups and seven sub-groups, as follows:

1. Page One (and, in the Citizen, the front page of its third section, or Page 1C).
 - a. Banner or lead article.
 - b. Special feature display, such as a strip across the top or bottom of the page.
 - c. Any other position.
2. Pages 2 through 10.
 - a. Top of page or directly and obviously linked, by placement or mechanical device, to top-of-page article.
 - b. Any other position.
3. Rest of newspaper.
 - a. Top of page or directly and obviously linked, by placement or mechanical device, to top-of-page article.
 - b. Any other position.

The convenience of a section page to the reader, in that he need not turn a page to view it, constitutes an

attention-getting advantage. The Citizen has used this to advantage to the extent that Page 1C has become, in effect, a second Page One. In the morning conference of editors to decide the day's news play, the list of offerings is not separated into those for Page One and Page 1C. The items are lumped together and parcelled out only after discussion. The only qualification is that national and international wire news is not used on Page 1C. But any local or state news may be highlighted by placement there if it is deemed not important enough to appear on Page One or if it might suffer in display potential on Page One by comparison with more compelling news there.

The Standard has no such alternative display page, but it would have been invalid, for comparative purposes, to halve the number of inches on the Citizen's Page One and Page 1C devoted to smelter pollution. There was no way to determine how the Citizen would have displayed such news if it had had no Page 1C. Half of such news might have gone to an inside page, but it might as easily have been considered important enough for three-fourths of it to appear on Page One. I chose to compare directly rather than arbitrarily to set a comparison factor.

It is also true that, without Page 1C, only one banner story would have been possible for the Citizen, but again there was no way to determine which articles would have been selected and what their lengths would have been.

Again I chose direct comparison, keeping in mind the advantage to the Citizen.

In establishing a separate main group for Pages 2 through 10, regardless of the sizes of the two newspapers, I took into account the common practice of daily newspapers to place their more important articles on the first several pages. One reason sometimes advanced is that a reader will not always go through the entire paper and is less likely to turn first to the back pages except for specific interests, such as sports news, classified advertising, and the comics. Another reason appears to be the implied greater importance through simple numerical proximity to Page One. In newsroom parlance, to "bury" an article is to place it in an inconspicuous position on a back page. Page One or Page 1C is usually placed in the first of the newspaper's four or six sections. The first section usually ranges in size from 16 to 20 pages, but the advertising department has a standing request from the newsroom for news display space "up front." The Standard also generally contains more news space on its "up front" pages than through the rest of the newspaper.

The Standard also has a larger than usual news space on its "jump page," its page for continuation of Page One articles. This page ranges from Page 6 to Page 16, with roughly half of the continued articles examined in this study being continued on pages up to Page 10 and the other

half on pages after Page 10. But major news stories are seldom initiated on the "jump page."

The Citizen also continues articles from Page One-- usually to Page 2 or Page 3--but no Page 1C articles are ever continued.

However, while both the Citizen and the Standard continue Page One articles, I have categorized such articles by their first pages only, since that is where the reader usually makes his first contact and his decision on whether to read them.

Once each news or feature article about smelter pollution was categorized, the percentage of distribution through those categories was calculated for each newspaper. The two distribution profiles were then compared (Table 2).

Despite the Citizen's advantage in having both Page One and Page 1C at its disposal, the Standard almost matched it in the first main category. The Citizen's percentage of material on Pages 2-10 exceeded that of the Standard, but this is largely attributable to the Standard's full page of pictures and accompanying article published on February 6, 1972, on a back page. That page alone, measuring 160 column inches, accounted for 9 per cent of the total material. Had a full page been available closer to the front of the newspaper, the Standard's distribution would have been almost identical to that of the Citizen.

Table 2. Distribution of Smelter Pollution News by Display Categories

Display category	<u>Citizen</u>		<u>Standard</u>	
	Inches of news	% of total	Inches of news	% of total
<u>Page One, Page 1C</u>				
Banner, lead story	632	17.4	238	13.4
Special spread	491	13.6	258	14.5
Other	<u>1,162</u>	<u>32.0</u>	<u>597</u>	<u>33.5</u>
Total	<u>2,285</u>	<u>62.9</u>	<u>1,093</u>	<u>61.4</u>
<u>Pages 2-10</u>				
Top or top-linked	406	11.2	149	8.4
Other	<u>273</u>	<u>7.5</u>	<u>59</u>	<u>3.3</u>
Total	<u>679</u>	<u>18.7</u>	<u>208</u>	<u>11.7</u>
<u>Rest of paper</u>				
Top or top-linked	494	13.7	399	22.4
Other	<u>169</u>	<u>4.7</u>	<u>80</u>	<u>4.5</u>
Total	<u>663</u>	<u>18.4</u>	<u>479</u>	<u>26.9</u>
Grand total	3,627	100.0	1,780	100.0

Distribution of Views in News and Feature Articles

Measurement was made of news and feature material in the Citizen and Standard that clearly reflected the views of those favoring or opposing the imposition by the state or the EPA of strict emissions standards. The material might be an entire article or part of it. For instance, one article might consist entirely of an interview with an opponent or proponent of the strict standards, while another article might contain quotations from either side at a hearing or in preview of a hearing.

For the Citizen, seven periods were measured:

1. After the Phelps Dodge Corporation threat on October 21, 1971, to shut down its smelter at Douglas and until the November 18 decision by the state health board to deny immediate action on the Phelps Dodge petition for a change in the state emissions standards, the Citizen published five articles on the threat. Four articles, totaling 64 column inches, reflected support of strict standards. One 4-inch article supported the mining firm's position.
2. Between the announcement of the health board's decision on November 18 against immediate action on the Phelps Dodge petition and the first article on the December 30, 1971, hearing on the health board's proposed implementation plan, the Citizen

published 10 articles relating to smelter pollution. Three dealt with the health department itself and the mechanics of the impending hearing, two were neutral resumes of the controversy, and one reported Anaconda Company research to circumvent the smelting process. Of the remaining four, two reflected the views of the mining firms on the emissions standards and totaled 30 inches; two contained material critical of the mining firms' position and totaled 52.5 inches.

3. The December 30, 1971, hearing was described in two articles. The December 30 article contained 4.75 column inches stating the viewpoint of the mining firms and 6 inches supporting the continuation of the strict emissions standards. In the December 31 article, all but one paragraph reported views favoring the strict standards, with a total of 31.5 inches. It should be noted here that the second article was devoted to the afternoon session, and the mining representatives spoke in the morning session only, which was reported on December 30. Offsetting the December 31 article was the Page One banner article that day (47 inches) which announced, "Copper Firms Cut Exploration Here; Blame Economics, Environmentalists."

4. On January 20, 1972, the Page One banner article reporting the health board's decision not to change the emissions standards contained 13.5 inches of material favorable to the existing standards, including the decision itself, and 10.25 inches reflecting views opposed to the existing standards.
5. Between the health board's repeal of the existing emissions standards on April 21, 1972, and the May 23 hearing on its proposed new standards, the Citizen published 10 articles pertaining to smelter pollution. Two articles dealt with the impending hearing and the mechanics of submitting an implementation plan to the EPA. Of the remaining eight articles, three were favorable publicity for the mining firms' problems in controlling air pollution (54.5 inches) and five articles criticized or reflected adversely upon the mining firms (79 inches).
6. The single article on the May 23, 1972, hearing on the proposed new emissions standards contained 6 inches of material favorable to those standards and 13 inches unfavorable to them.
7. Between the July 25, 1972, veto by the EPA of the state implementation plan containing the new, less strict standards and the September 6 hearing on the EPA's own proposed strict standards, the Citizen

published six articles pertaining to the debate over the standards. Two articles were neutral resumes. Of the remaining four, one reflected the viewpoint of those favoring the EPA standards (9.5 inches); three articles reflected the viewpoint of those favoring the state standards (57 inches).

Thus, in the 25 articles in these seven periods which favored one side or the other, a total of 277 inches (56.5 per cent) was favorable toward strict standards, while 213 inches (43.5 per cent) favored less strict standards.

There were four periods during the study period which gave opportunity for similar measurements in the Standard:

1. Between the Standard's report on September 30, 1971, of the Anaconda Company petition to the state health board for more lenient emissions standards and the December 16 report of the previous day's hearing on the matter by the health board, the Standard published nine articles on the subject of emissions and the impending hearing. Three articles were neutral resumes, two by the Standard State Bureau and one by the Associated Press. Another reported the setting of the hearing date. A fifth article reported a pre-hearing workshop on audience participation at which the issues were debated.

The paragraphs advancing one viewpoint or the other were not measured, but they appeared roughly equal in length.

Of the remaining four articles, one was favorable toward strict emissions standards and measured 17 inches. The other three were favorable to the other side and totaled 38.5 inches. During that same period there appeared on Page One a 4½-column picture of an Anaconda Company project at Anaconda to divert Silver Bow Creek away from company facilities in order to restore the purity of the creek.

2. Between the Standard's report of the December 15, 1971, hearing by the health board on the mining firms' petition for more lenient emissions standards and the Standard's report of the board's decision on January 7 not to change its standards, the Standard published six articles on the controversy. Two articles reflected the views of those supporting strict standards and totaled 30 inches. Three articles reflected the views of the opponents of strict standards and totaled 40 inches. The sixth article was an analysis of the situation by the Standard State Bureau and contained 9.5 inches of material on the views of the supporters of strict standards and 13.5 inches of material on the other

side. For this period, therefore, the totals were 39.5 inches advancing strict standards and 53.5 inches against them.

3. Between the Standard's report on February 1, 1972, of Governor Anderson's veto of the health board's implementation plan and his submission to the EPA on March 23 of a plan without controls for sulfur oxides, the Standard published 23 articles on the controversy and on emissions in general. These included articles on events in Arizona which tended to put one side or the other in a favorable light. Three articles were neutral resumes of the controversy between the governor and the health board and of the role of the EPA. Another simply reported the governor had returned the plan to the health board for further action. A fifth article reported testimony in the U. S. Senate by EPA Administrator William D. Ruckelshaus that the EPA guidelines for establishing state standards had not been dictated by executive department officials.

Of the remaining 17 articles, nine favored the pro-strict standards forces and totaled 175 inches. Another eight articles favored the other side and totaled 347 inches. More than half of this--189 inches--was in the form of a full page of pictures

and accompanying article about Anaconda Company pollution abatement and production expansion at Anaconda.

The 23rd article, 80 inches long and beginning on Page One, was a New York Times news service resume of the entire contest between the mines, the state health board, the governor, and the EPA. It appeared the same day that its original version was published in the New York Times. While it was largely neutral, it contained enough value words and phrases to put the mining firms at a disadvantage. Consequently, the pro-strict standards supporters can be said to have received something more than the 175 inches of favorable newspaper exposure reported above.

4. Between the announcement on July 27, 1972, of the tough EPA standards and the Standard's report of the August 30 hearing on those standards, three articles on the subject were published in the Standard. One was a neutral resume. Of the other two a 15-inch article favored the supporters of strict standards, and a 14-inch article favored their opponents.

Thus, 29 of the 41 articles published during these four periods clearly favored one side or the other in

presenting the viewpoints. Of the material in those 29 articles, 246.5 inches (34.7 per cent) were favorable toward strict standards, while 463 inches (65.3 per cent) favored less strict standards (see Table 3).

Table 3. Distribution of Views in News and Feature Articles

	Inches of Material for strict standards	Per cent	Inches of material against strict standards	Per cent
<u>Citizen</u>	277.0	56.5	213.0	43.5
<u>Standard</u>	246.5	34.7	463.0	65.3

Display of Articles Publicizing Viewpoints

The news and feature articles in the preceding section were examined for objectivity in display. An advantage in length of material favorable to one side could conceivably be offset by greater prominence in display given to material favorable to the other side. Taken together, length and display of such material provide a rough but quick index of objectivity.

Turning first to the Citizen, the articles described for Periods 3, 4, and 6 were news reports of testimony at hearings or health board decisions, articles

which would automatically receive prominent display because of the importance and prominence of the events.

In Periods 1, 3, 5, and 7, however, the Citizen published 21 articles of another sort, such as interviews, statements by groups or individuals involved in the issue of standards, or descriptions of adverse effects from smelter-originated pollution, articles which would not ordinarily receive automatic prominence. Twelve of those articles favored advocates of continued strict emissions standards; the other nine favored the opponents. Of the former 12, seven (58.3 per cent) appeared either on Page One or Page 1C. Of the latter nine, five (55.6 per cent) appeared either on Page One or Page 1C.

In examining the 41 articles published in the Standard which were described in the preceding section, exclusions were made, as with the Citizen, of reports of testimony at hearings and health board decisions. In addition, EPA decisions and official acts by Governor Anderson, which had no equivalents in the Citizen sample, were also excluded because they could be expected to receive prominence automatically. In fact, all of them did.

The 25 remaining articles included interviews, statements by groups or individuals involved in the issue of emissions standards, parallel events in Arizona, and related inquiries in Congress. Twelve of these favored advocates of strict emissions standards; 13 favored the opponents. Of

the former 12, seven (58.3 per cent) appeared on Page One. Of the latter 13, eight appeared on Page One, and a ninth (69.2 per cent) was a full-page spread of pictures and related article on an inside page with a visual impact closer to that of the Citizen's Page 1C than to that of an ordinary article on an inside page (see Table 4).

Table 4. Display of Articles Publicizing Viewpoints

	Number of articles on Page One, Page 1C	Per cent	Number of articles in rest of paper	Per cent
<u>Citizen</u>				
For strict standards	7	58.3	5	41.7
Against strict standards	5	55.6	4	44.4
<u>Standard</u>				
For strict standards	7	58.3	5	41.7
Against strict standards	9	69.2	4	30.8

Distribution of Views in Major Feature Articles

The majority of the articles examined in the Citizen and the Standard during the study period were news reports--of health board or EPA decisions, for example, or corporate announcements, group protest statements, court rulings, or public hearings. In addition, however, each newspaper published major feature articles generated by several sources and which would not have been necessary to provide basic knowledge of the events in the study period. They were "extras" provided by the newspapers, and for this reason they were examined to see how many favored one side or the other in the controversy over emissions standards.

The Citizen published 13 such feature articles. Two of them were general resumes of the current situations which appeared to be neutral, both in the amount of material about each side and in the language used to present it. "PD Debate: Pollution Vs. Payroll" was published December 17, 1971. "When will smelters clean air?" appeared on July 31, 1972. (The Citizen changed its capitalization style for headlines on January 26, 1972.)

Another neutral article described research at The University of Arizona in Tucson. Headlined "Dirt may be solution to stack emission pollution," it appeared June 15, 1972, with a four-column picture of the research equipment.

Of the remaining 10 articles, four appeared to publicize the viewpoint of those opposed to any easing of the state's strict emissions standards:

October 22, 1971--"Permit Data On Copper Questioned," based on a formal report by a state official who suggested the copper firms might have obtained conditional smelter-operation permits from the state under false pretenses.

December 1, 1971--"Arizona's Clean Air Rule Called Weak," a poll of Tucson residents on pollution sources and controls.

December 21, 1971--"Duval Woes Laid To Out-Of-State Controls," a response to an explanation by the Duval Corporation that it was closing its mining and milling operations at Esperanza because state controls were too strict for the smelters' continued performance. The December 21 article said the halted smelters were in Texas and the state of Washington, not Arizona.

February 10, 1972--"State must act fast or get weaker rule: On pollution control," a resume of the situation created when Arizona submitted to the EPA its implementation plan with no mention of sulfur oxide emissions from the smelters. The headline contained the value word "weaker" and the article quoted at length a state pollution control official opposed to the possible imposition of the then less strict federal standards.

The six remaining feature articles appeared to publicize the viewpoint of those opposing the continuation of the state's strict emissions standards:

August 23, 1971--"Arizona Copper Emission Controls Bring Predictions Of Financial Ruin." The article, accompanied by a map of Arizona's copper operations, contained some arguments by a state official, but the greater emphasis in space and language was given to the copper companies' position.

February 2, 1972--"Douglas: A town with a future, or 'instant Appalachia?'" This was a sympathetic look at the town of Douglas, with a preponderance of quotations from citizens worried over the possible shutdown of the Phelps Dodge smelter there.

April 8, 1972--"Is Lead Poisoning A Threat To Arizona?" This long, illustrated article in the weekly magazine section stated the smelters' contribution of lead to the air is negligible.

June 23, 1972--"Pollution testers' reliability doubted," with a picture of one of the air testing devices in question.

August 21, 1972--"Feasibility gap foreseen as EPA hearing result," a preview of an impending hearing, based on an interview with a state official opposed to the strict standards that by then were being espoused by the EPA.

October 24, 1972--"Official cites smog control at Kennecott," an AP interview with a Kennecott division manager.

Five of the nine major feature articles published in the Standard during the study period were neutral resumes-- four by the Standard State Bureau and one by the AP:

November 10, 1971--"State clean air plan on the line."

December 12, 1971--"Crucial hearing Wednesday on smelter smoke."

December 15, 1971--"Pollution hearing in Montana."

February 6, 1972--"Governor pleads case for less strict standards," with both sides' views presented at length despite the one-sided headline.

August 1, 1972--"Smelter hearings set Aug. 30 in Helena."

A sixth resume, "The story behind Anaconda Co. and clean air," was published February 7, 1972. As characterized earlier in this study, this 80-inch article by the New York Times was largely neutral but contained enough value words and phrases to put the mining firms at a disadvantage.

The remaining three articles were more clearly favorable to those opposing strict emissions standards:

October 6, 1971--"Smelter cleanup cost questioned," describing research done by a graduate student at Montana

State University. The study showed the cost of controlling sulfur oxide fumes from the American Smelting and Refining Company smelter at East Helena could not be justified economically if matched against damage to houses and agricultural products in the surrounding area.

February 3, 1972--"Governor stands ground," a Standard State Bureau interview with Governor Anderson on his position against the health board's implementation plan.

February 6, 1972--A full page of pictures and accompanying article about Anaconda Company efforts to abate pollution at its Anaconda operations. There were also pictures of production expansion at Anaconda. The article stated that \$7 million was spent for expansion, but \$30 million was spent for pollution abatement (see Table 5).

Display of Major Features Publicizing Viewpoints

The major feature articles discussed in the preceding section were examined for objectivity in display.

Of the 13 articles published in the Citizen during the study period, three were neutral, four advanced the viewpoint of those opposed to any easing of the state's strict emissions standards and six favored the viewpoint of those opposing such standards. Of the four favoring the strict standards, three (75 per cent) appeared either on Page One or Page 1C. Of the six opposing those standards, three (50 per cent) appeared either on Page One or Page 1C.

Table 5. Distribution of Views in Major Feature Articles

	No. of neutral articles	Per cent	No. of strict rules articles	Per cent	No. of easier rules articles	Per cent	Total number articles
<u>Citizen</u>	3	23.1	4	30.8	6	46.2	13
<u>Standard</u>	5	55.6	1	11.1	3	33.3	9

All of the major feature articles published in the Standard began on Page One (see Table 6).

Table 6. Display of Major Features Publicizing Viewpoints

	Number of articles on Page One, Page 1C	Per cent	Number of articles in rest of paper	Per cent
<u>Citizen</u>				
For strict standards	3	75	1	25
Against strict standards	3	50	3	50
<u>Standard</u>				
For strict standards	1	100	--	--
Against strict standards	3	100	--	--

All seven neutral articles appeared on Page One or Page 1C.

Use of Illustrations

During the study period, the Citizen published 15 photographs, a map, and a chart which were related directly to smelter pollution.

Two of the photographs did not accompany any article. On September 22, 1972, a three-column picture of the Magma Copper Company smelter smokestacks at San Manuel, entitled "Pollution by Moonlight," appeared in the center of Page One. Six days later, a six-column picture of smog over Tucson was published on Page 15 with the caption, "Can you spot Tucson?" Smelters were not mentioned but were implied by reference to the direction from which the smog drifted. These pictures I judged to be critical of smelter pollution but devoid of comment on means of control.

Of the 13 photographs used with articles, six were portraits of persons mentioned in four articles. The remaining seven photographs ranged from two to four columns in width. They depicted valves at a smelter's sulfuric acid plant, an emissions filtration system, an air sampling device, two views of smog and two views of smelter smokestacks.

A total of 12 articles were illustrated in this manner. In addition, a three-column map accompanied another article, and a four-column chart accompanied yet another.

Of the 14 articles thus illustrated and consequently given extra emphasis for whatever reason, five appeared to publicize the cause of those advocating strict emissions standards, six favored their opponents, and one

was a neutral report of research. In addition, the two photographs published without accompanying articles were clearly critical of the smelters.

The Standard published one picture page and two other photographs related to smelter pollution during the study period. The page of pictures and its accompanying article, which appeared on February 6, 1972, has already been described. A 4½-column picture was published on Page One on December 15, 1971, which showed twin culverts engineered by the Anaconda Company to divert Silver Bow Creek away from the company's facilities to restore its purity. On February 6, 1972, there appeared on Page One a two-column picture of Anaconda Company President Place at the annual stockholders meeting in Anaconda at which Place confirmed the firm's study of a new metallurgical process to circumvent smelting.

The Standard did not publish, during the study period, any picture of pollution created by smelters, nor did it illustrate any article publicizing the viewpoint of those advocating the retention of strict emission standards (see Table 7).

Inconsistencies in Display

There were some noteworthy inconsistencies in display of news and feature material in both the Citizen and the Standard during the study period.

Table 7. Distribution of Views in Illustrated Articles

	No. of neutral articles	Per cent	No. of strict rules articles	Per cent	No. of easier rules articles	Per cent	Total number articles
<u>Citizen</u>	1	8.5	5	42.5	6	51.0	12
<u>Standard</u>	--	--	--	--	2	100.0	2

The first instance in the Citizen involved a report to the state health board from its air pollution control division which challenged the mining firms' claims that they could not meet the state's strict emissions standards. State Health Commissioner Louis Kossuth at first refused to make public the report, then two days later released it.

The Citizen published four articles on the incident. On January 5, 1972, an early edition AP report from Phoenix, only 7.5 inches long, including its one-column headline, appeared at the top of Page 9, on which there was only one column of news space--a relatively minor display. The headline announced, "Paper Says Mines Able To Clean Up: Kossuth Won't Tell Contents."

A later edition carried the same news as a secondary article on Page 40, but this time it was locally written and was now 13 inches long, partly because it now bore a three-column headline emphasizing the secrecy element: "State Health Chief Denies Pollution Study Concealed: 'Complex,' Not Urgent." Its relocation on Page 40 was because that was the regular inside page for new later-edition material that day and did not constitute a down-grading. In fact, it had received more attention in writing and headline display.

On the following day, the Citizen published a 9½-inch, locally written article low on Page 1C with a two-column headline: "Medical Men Say: Make Clean-Air Report Public." The two major county medical societies in the

state had issued a statement urging Kossuth to release the report.

On the next day, January 7, the contents of the report, released by Kossuth after a meeting with health board members, were described in a 36½-inch, locally written article. It appeared, with a major-size two-column headline, in the No. 2 position on Page One, with a continuation to Page 8.

This is a good example of a story growing in length, position, local news treatment, and display. It is also a good illustration of the danger inherent in an exclusively mathematical evaluation of a newspaper's objectivity. What probably induced the upgrading in treatment of the foregoing article was its increase in controversy, with a corresponding editorial belief in its increased potential readership. In this instance, the Citizen appeared to have added 66.5 inches of smelter-related news to its annual total because of newsworthiness, not because of any desire to emphasize smelter pollution news.

Another example of inconsistency is represented in the display of the January 28, 1972, report that Arizona had finally submitted its implementation plan to the EPA without any sections on sulfur oxide emissions from smelters. The article was put back on Page 18, at the top with a three-column head. The omission of the sulfur standards apparently was considered by the news staff to be safely routine,

possibly because the article's second paragraph stated that Arizona still had four months in which to make changes in the proposal. Thus the article was assigned a relatively important but undramatic position on what that day was the regular "state page."

On February 2, however, an editorial in the Citizen stated, "Arizonans were shocked" at the omission. The editorial referred to the January 30 deadline for the complete plan, as stipulated in the Federal Register.

The editorial reported, "According to an EPA spokesman contacted this week, it is the EPA administrator, not the various states, who has four months in which to amend, accept or reject the proposals."

A Page One recapitulation of the matter on February 10, locally written, contained a reference to the implementation plan's "stunning" omission.

Here was a case, then, in which the significance of the news report had been missed somewhere along the line. The display statistics were affected by on-the-spot judgment of newsworthiness.

In a less understandable change in display, the Arizona Senate's approval of a two-year delay in the deadline for meeting air pollution control standards was given a Page One banner on February 17, 1972, while the delay's defeat on March 22 by the House Public Health and Welfare Committee rated only a one-column headline on Page 24, not

even at the top of the page. That this was not an editorial "burial" is evident in Associate Editor Tselentis' column, "At Week's End," in which he was critical of the Senate move but applauded the House committee action.

The only other noticeable inconsistency in display in the Citizen occurred on October 26, 1972, when, after much publicity about the debate between Arizona and the EPA over emissions standards, the decision by the state health board to amend the state standards to conform with the EPA's, pending a court ruling, was put back on Page 34, albeit at the top with a three-column headline. The decision may have been based on the fact that the article contained only six paragraphs, only three of which pertained to the decision, the rest describing other business.

The first noticeable inconsistency in display in the Standard was the treatment of an AP report from Ely, Nevada, on September 16, 1971, on testimony by the Kennecott Copper Corporation at a pollution control hearing by Nevada's Environmental Protection Commission. A Kennecott official said, among other things, that standards were being, or were to be, challenged in other states. Such a challenge, he said, was to be made in Montana by the Anaconda Company.

The article, still under the Nevada dateline and headlined simply "Copper industry hurt by anti-pollution rules," was printed below obituaries on Page 2 when it might have been expected that the article would be rewritten

around the pending Anaconda Company action and headlining that with more prominence.

Editor Gaskill stated, upon inquiry, his suspicion that the wire desk man "didn't read as well as he should have, or [he] would have localized it." He added that the topic had been "a long continuing story," that there may have been earlier, more prominent treatment of it and that this constituted repetition.

On the following day, September 17, the Standard published a lengthy editorial in which the Anaconda Company argument to the state health board and a request for a meeting were presented. The information was attributed to "Anaconda Company spokesmen." There had been no report on the challenge during July, August, and September, so that the news of the actual request for a meeting was first presented in the editorial.

Not until September 30 did the Standard publish, on Page One, an article headlined "Anaconda asks lower standards," in which it was announced, "The Anaconda Co. has petitioned the Montana Board of Health to lower its standards . . ." without specifying the date of the petition.

Another instance centered on a December 15, 1971, hearing by the state health board on the mining firms' requests for less strict emissions standards (by then the American Smelting and Refining Company had joined the

petition). The Standard published a Page One article the next morning on the testimony. While the first paragraph of the article adopted the general approach of environmentalists trying to persuade the health board to retain the strict standards instead of using the less stringent guidelines proposed by the two major smelting industries, the headline announced, "Place presents Anaconda views." The Anaconda Company president was quoted in the article, but so were environmental groups, and the headline appeared one-sided.

In addition, three other articles on the same one-day hearing appeared in the December 17 Standard. Testimony by Ben Wake, state air pollution control director, was published on Page One, a Standard State Bureau analysis of the testimony--actually a lengthy resume--appeared at the top of Page 17, and EPA testimony, both oral and written, was described at the top of Page 27. There were no reference directions among the scattered articles.

A somewhat similar instance had occurred on December 9, when two articles, by the same reporter with the Standard State Bureau, described activities at the same workshop in Helena preparatory to the December 15 hearing. One article appeared on Page One, the other on Page 6, without cross-reference.

On January 9, 1972, the same reporter wrote two articles on a health board hearing the previous day, one on

the arguments of the protagonists in the standards controversy and the other on the EPA's position relative to the state standards. The former article appeared on Page One, the latter on Page 32 (the last page) but with a reference line on Page One that stated, "More environment Page 32."

Most of the fragmentation and dispersal probably constitutes a copy desk problem of consolidation and is another good illustration of the kinds of things that statistics on display will not reveal.

A third instance of inconsistency in display occurred after a seven-week controversy over the health board's implementation plan subsequent to its rejection by Governor Anderson. Beginning with the report on February 1, 1972, of the governor's veto of the plan, the Standard published 16 articles on the controversy--13 of them on Page One--before announcing on March 23 that the governor had finally submitted the plan to the EPA, but without any reference to sulfur oxide emissions. That article, with only a two-column headline that read simply "Governor submits air plan," appeared back on Page 8. It consisted of an 11-inch report by the AP in Helena. Yet when the New York Times news service provided a longer story more than a week later, the Standard put a three-column headline on it-- "Governor submits sulphur-less plan"--and published it on Page One of the April 4 issue.

Queried about this unusual treatment, Editor Gaskill responded, "Suspect two different desk men handled stories in question, without consultation with anyone. However, much of this was anticlimactic after so much copy dealing with essentially the same thing, over and over. Newsmen try to give their readers what they want, also, not just what we think they ought to read."

On March 23, when the governor's submission of the plan was first announced on Page 8, the banner article on Page One was on the findings of the presidential commission on the use of marijuana. The other Page One articles that day dealt with the investigation of International Telephone and Telegraph relations with the Justice Department, the constitutional convention's final approval of Montana's new constitution, and the latest activities of terrorists in Belfast.

A fourth instance of inconsistency was the contrast between the Page One banner treatment on March 26, 1972, of the health board's scheduling a hearing on extending the smelter clean-up deadline and the decision by the board after the hearing not to change the deadline. That decision was reported on June 25 on Page 14. The display seemed even more inconsistent in view of the fact that a preview article on the forthcoming hearing was published June 23 on Page One. Because the latter article appeared in a Sunday edition, when a different desk man edited wire stories than on Monday

through Friday, there is again the possibility that the decision on display was made without consultation and that the significance was missed or not known.

A fifth instance was the display on May 31, 1972, of an AP report from Washington of a federal judge's ruling that states may not permit high quality air to deteriorate even to the level of federal antipollution standards and that it was the responsibility of the EPA to see that state implementation plans carried this protection. Although the ruling came when mining companies, the health board, and the environmentalists were awaiting the EPA's reaction to the governor's "sulphur-less plan," the article was placed back on Page 3, not at the top of the page. The Citizen published it the previous day on Page One.

The sixth and last instance was the treatment given on July 22, 1972,--a Saturday--to an AP report from Missoula that a complaint had been filed in court aimed at forcing the EPA to accept for consideration the health board's original implementation plan on the grounds that only the board was authorized to submit a plan. The article was placed midway down Page 3 and probably would have deserved no better display, except that it contained a paragraph stating, "Meanwhile Friday in Helena, a regional EPA officer informed the State Board of Health that the EPA will order into effect what he termed as 'startling' air quality standards for Montana and 11 other states whose

plans were rejected by the EPA." This might properly have been what the AP should have made its leading paragraph or a separate story, and what the Standard might have considered doing when the AP did not.

When the EPA standards were disclosed, the Standard State Bureau wrote, "There was some surprise that the planned EPA standards are as strict as they are," and the article was given a banner on the Standard's July 26 Page One.

These examples of inconsistencies in both the Citizen and the Standard were the only ones found in examining all the issues through the 17-month study period. There was no evidence of deliberate downgrading in display because of sympathy for or against strict emissions standards. Rather, they appeared to be examples of mishandling from a variety of causes probably familiar to most newsrooms.

Information and Continuity Gaps

Finally, the news reports themselves were examined for noticeable gaps in information or continuity.

Neither newspaper published, back in August, 1971, anything about the issuance that month of the EPA's guidelines on establishing state emissions standards. It was the change in language of the guidelines which precipitated the copper firms' requests to the states for revision

downwards of the existing emissions standards. It is probable that such information was omitted by the wire services because of its technicality and perhaps missed significance.

The only other instance in the Citizen of a single story with noticeably inadequate information occurred on October 26, 1972. After long debate between Arizona and the EPA over emissions standards, the state health board decided to amend its standards to conform with the EPA's until a court ruling could clarify the matter. As stated in the preceding section of this study, the article contained only six paragraphs and was, despite the prominent display given to most of the previous reports on the controversy, put back on Page 34. In addition, however, only the first three paragraphs referred to the standards; the rest dealt with other board business. The only description of the changes was "Generally, the amendments adopted were similar to those drawn up following a health board meeting September 6." The Citizen had not published an account of the September 6 meeting.

Neither did the article--written by the AP in Phoenix--explain the effect of the amendments on the suits against the EPA by the state and the copper firms or why, in view of its suit, the state bothered to change its standards.

Beyond that, throughout the study period the articles on the proposed standards by the state and the EPA

did not make clear when either set of standards would become accepted and effective, or what was the projected timetable of deadlines, court challenges, and other possible delays.

Turning to the Standard, the unusual method of handling the Anaconda Company request to the state health board for less stringent emissions standards has already been discussed in the preceding section. In addition, when the American Smelting and Refining Company sent a letter on October 20, 1971, to the health board with the information that it was joining the Anaconda Company petition, the Standard did not report that action until November 9, almost three weeks later.

An important piece of information absent in the Standard was the EPA's reaction to a federal court ruling on December 6, 1972, which granted Anaconda Company an injunction against the EPA's imposition of emissions standards until a full hearing could be held in which the company could cross-examine witnesses. There would seem to have been opportunity in the three weeks left in December to ask the EPA about its plans either for an appeal or a full hearing as ordered. The December 6 article made no mention of an appeal.

However, there did not appear to be any other major gaps in information in the Standard. In fact, the Standard published details of hearings that were unfavorable to the mining firms and which could have been omitted, along with

entire articles that were not necessary to preserving the continuity of events but which simply supplied a more complete picture of the controversy.

The Standard suffered from fragmentation of its articles, as previously discussed, so that two and three articles on the same event were published on different pages of the same edition. There was, in addition, a confusing irregularity in its publication of hearing dates, agenda topics, and EPA deadlines for the submission of the state's implementation plan.

Most of the articles on the hearings were prepared by the Standard State Bureau, along with some by the AP, and the Standard apparently depended on these sources to provide what reminders and resumes were published. Thus, for example, an AP article announced on March 26, 1972, that the health board would conduct a hearing on May 13 to discuss a change in compliance dates for the smelters. The next information was not published until June 23, in a preview of the hearing which by implication had been rescheduled from May 13 to June 24. The state bureau thereafter produced a full report of the hearing.

In neither newspaper, then, was there evidence of information being withheld or deliberately scrambled. Thus it could not be demonstrated that the editorial positions clearly favoring strong smelter emissions control standards

were reflected in the overall treatment of news and feature articles.

CHAPTER 6

SUMMARY

The Tucson Daily Citizen and the Montana Standard were examined and compared for the period of August, 1971, through December, 1972, to determine whether the smaller Standard, published in a mining center, favored more than the Citizen the views of mining interests in a controversy over air pollution.

The Citizen and the Standard each gave 0.21 per cent of the available news space to the smelter control controversy.

The two newspapers were almost identical in the percentage of top-level display given to smelter controversy articles. The Citizen surpassed the Standard in percentage of middle-range display given to such articles, and the Standard led in low-range display, but the shift of one Standard picture page would have left the two papers almost identical in all ranges.

The Citizen's amount of news and feature material favoring one side or the other was not quite evenly distributed--56.5 per cent for strict standards, 43.5 per cent against them. The Standard was weighted more one-sidedly--34.7 per cent for strict standards, 65.3 per cent

against them. Again, the inclusion of the Standard's picture page was decisive. Without it, the Standard's distribution would have been more evenly divided--44.9 per cent for strict standards, 55.1 per cent against them.

In the display of these viewpoints, the Citizen and the Standard were identical for articles favoring strict standards. The Citizen had fairly even distribution of display for articles favoring opposition to strict standards, while the Standard gave a greater percentage of them prominent display.

The Citizen had greater percentages than the Standard both of major feature articles favoring strict standards and of such articles favoring easier standards. The Standard had a greater percentage of neutral articles.

In the display of major feature articles with definite leanings no favoritism was evident, since the Citizen placed articles from both sides on inside pages and the Standard put all such articles on Page One. Both papers put all neutral articles on Page One or Page 1C.

The Citizen used illustrations (photographs, a map, and a chart) with articles almost evenly divided between the opposing viewpoints. Two unaccompanied photographs were both critical of smelter pollution. The Standard's picture page, one photograph with an article, and one unaccompanied photograph all favored the mining interests.

Inconsistencies in display and gaps in information and continuity appeared to be the results of mishandling, not news management.

In general, where large measurements were possible, the findings for the Citizen and the Standard were identical or so close to being so that the use of the single picture page in the Standard was the chief difference.

Where measurements were small, the Citizen and the Standard each led one category in favoring the mining industry, no difference was apparent in a third category, and only in the use of illustrations did the Standard fail entirely to offer or emphasize criticism of the mining interests. Even then, no dependable conclusion appeared valid, since aside from the picture page the Standard printed only two other photographs related to the controversy (and related indirectly).

Citizen editorials advocated strong but flexible smelter control standards. Standard editorials advocated strict controls with lenient deadlines. Both opposed lowering standards to the levels urged by the mining interests. In view of the preceding measurements, these editorial positions could not be demonstrated to be governing influences in the treatment of the news and feature articles.

CHAPTER 7

DISCUSSION

Given the difference in resources available to the Citizen and the Standard, there was surprisingly little difference proportionately in their coverage of the smelter controversy during the study period.

This is even more remarkable in light of the immensely different relationship each community had to the copper industry and of the histories of the two newspapers. With fully a third of the local labor force in the employ of one copper company which also paid half the taxes for the entire county, the Butte newspaper was certainly on notice about the economic effect on that company of stringent environmental controls.

The Standard could have remained silent editorially or even supported easier smelter regulations. It could have minimized coverage of the controversy and eliminated feature articles. It could have weighted that coverage in both content and display to favor heavily the views of the mining interests.

Instead, its editorials advocated continuing the strict standards. Its percentage of news space devoted to

the debate matched that of the Citizen, twice its size. Its coverage was, on the whole, evenly distributed.

The Standard did appear to exercise caution, seeming to prefer the role of onlooker more than did the Citizen. It initiated fewer major feature articles (partly because it depended for them on the state bureau, not its local staff), it carried no pictures critical of smelter pollution, and it published more neutral articles than did the Citizen. But those neutral articles and the reports of the hearings were as replete with criticisms of the polluters as with defenses of them, and details of indignation among industry opponents were included that a truly intimidated newspaper would have omitted.

In general, then, the Standard's performance did not support the hypothesis that a smaller newspaper would be more likely to yield to economic pressure than would a larger newspaper. The concept of vulnerability was, in fact, contradicted.

It was a single contradiction, however, and more studies of a similar nature are needed for perspective.

The approach itself begs refinement. Much of the material measured was selective, the number of time periods compared were not always equal, and the samples sometimes were too small for dependable conclusions.

It would have been preferable, of course, to have included the performances of newspapers in the copper mining

states of Nevada, New Mexico, and Utah, where similar appeals for easier smelter regulations had been made or were contemplated. Access to those newspapers, however, was beyond available means.

There was also the important fact that the Standard belonged to a prosperous newspaper group and was not quite so bereft of financial resources as an independent newspaper would have been.

Finally, the concept of vulnerability may simply hold true in less dramatic circumstances, where the wishes of a corporation are not confronted by something so fundamental as the health of a community.

Further study of the supposed vulnerability of small newspapers is to be encouraged. Few cities now have more than one daily newspaper. In a time of steady corporate growth, with a corresponding growth in corporate influence, the effect of economic pressure on editorial decision-making holds important implications for the flow of information to the American public.

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