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The Oil Industry and Antitrust Merger Policy

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Abstract

This paper examines the trends in merger activity in the petroleum industry in light of over-all merger activity and of the Justice Department's merger guidelines. Supreme Court precedents and economic conditions within the petroleum area are discussed. Some conclusions concerning the Justice Department's merger policy are included.

1. INTRODUCTION

1.1 Background

Between 1960 and 1977 firms in the oil industry were involved in approximately 130 large mergers (involving $10 million or more in assets).[5] The Justice Department and the Federal Trade Commission have been criticized for not challenging these mergers. The basis of the criticism has been that this merger activity has had a negative effect on competition in the energy area. Not only have the mergers been criticized, but the industry has been threatened with federal legislation which would require some divestiture.

1.2 Purpose

The purpose of this paper is to examine merger activity in the petroleum industry, comparing it with over-all merger activity in the economy, and analyzing those mergers which have been completed in light of the Justice Department's merger guidelines and of Supreme Court decisions concerning mergers in other industries.

1.3 Outline of the Paper

Section 2 of this paper examines merger trends in the petroleum industry in relation to other mergers. Section 3 discusses the Justice Department merger guidelines and compares the conditions in the petroleum industry with the guidelines. Section 4 deals with some questions of difficulties in predicting the outcome of hypothetical cases and with some special conditions in the petroleum industry. Section 5 summarizes the findings of the paper and contains some comments on public policy precedents.

2. MERGER TRENDS

2.1 The Effects of Mergers[1]

The severity of policy questions dealing with mergers hinges on the effect of mergers on the industries in which the merging firms are involved. In the case of horizontal mergers, the obvious problem is one of increased concentration. However, in markets with low

levels of concentration, the effect of a few mergers may be negligible.

Of more interest is the case of possible elimination of potential competition through merger. This situation can exist with either a vertical or conglomerate merger. Before the merger, one firm believed that the other firm stood ready to enter its market. This threat of competition is often as effective as actual competition. The merger of the two firms, then, reduces the competitiveness of the market as far as firm behavior is concerned, although concentration indices will show no effect on competition. A complicating factor is that if an outsider buys up an existing small firm within an industry, the effect may be the same as if a new firm had entered the industry with an increase in competition among the larger firms in the industry.

Another possibility which exists with any type of merger is increased opportunity for predatory pricing. The term "predatory" is not clearly defined, but generally refers to a situation where a large firm can, because of available resources, force a smaller firm out of business, or force smaller firms to conform to certain practices, such as pricing policies or marketing policies. This situation is sometimes referred to as the "deep pockets" case.

Finally, particularly in the case of vertical mergers, reciprocity may be increased as a result of a merger. Reciprocity is the practice of a firm buying only from those who buy from it. A merger between the two firms formalizes the arrangement, and cuts off any possibility of a future decline in reciprocity.

Not all merger activity results in a negative effect on competition. The legal system in the United States has looked at each merger on an individual case basis, using a rule of reason approach to questions of which mergers should be allowed. By far the majority of attempted mergers are left unchallenged.

2.1 Data

Tables I-V provide some information on the number and types of mergers which took place during 1960-1977 both in the economy as a whole and in the petroleum industry. The data for these tables was taken from the Federal Trade Commission's Statistical Report on Mergers and Acquisitions,[5] which contains a listing of all large mergers for the period 1949 to the present. The list was searched for mergers which involved petroleum-related companies at any stage of the production process, either as acquiring or acquired firms. For this reason, the data here overstates the merger activity of petroleum firms. Many of the acquisitions included are of, and not by, petroleum firms. In some cases a merger may actually result in increased competition in the energy area because of the entry of a large outside firm through acquisition of a small firm.

Table I contains an estimate of the number of non-energy related companies which acquired petroleum companies during 1960-1977. This type of situation definitely increased during the later part of the period, indicating a possibility of increased competition within the petroleum industry.

Table I

Petroleum Firms Acquired by Non-Petroleum Firm

1960	1	1969	0
1961	0	1970	3
1962	1	1971	1
1963	1	1972	1
1964	3	1973	5
1965	2	1974	3
1966	5	1975	4
1967	1	1976	3
1968	5	1977	9

2.2 Number of Mergers

Table II shows the number of petroleum-related mergers and of all mergers. Petroleum related mergers vary as a percentage of all mergers from a low of 1.7% of all mergers in 1971 to a high of 22.2% of all mergers in 1963. During the first third of the period under investigation (1960-1965) petroleum mergers averaged 13.3% of all mergers. This was the highest percentage for the three sub-periods. During the second third (1966-1971), the percentage fell to an average of 7.38%, and rose again during the last third to 11.88%. This trend by itself, is an indication that merger activity in the petroleum area has not grown drastically throughout the period.

Table II
Petroleum Mergers and Total Mergers

	No. of Petroleum Mergers	% of Total Mergers	No. of Total Mergers
1960	4	8	50
1961	8	17.4	46
1962	9	13.8	65
1963	12	22.2	54
1964	10	13.7	73
1965	3	4.8	62
1966	11	16.9	65
1967	7	5.1	138
1968	11	6.4	173
1969	7	5.3	133
1970	8	8.9	90
1971	1	1.7	58
1972	5	8.6	58
1973	9	16.1	56
1974	8	12.9	62
1975	5	8.5	59
1976	9	11.1	81
1977	14	14.1	99

2.3 Types of Mergers

Tables III, IV and V show the numbers and percentages of petroleum-related mergers and of all mergers over this period. The FTC classifies mergers as horizontal, vertical, product extension, market extension, or conglomerate. Horizontal mergers are between two competing firms at the same stage in a production process. Vertical mergers are between two firms at different stages in a production process. A market extension merger is between two firms selling the same product in different geographic areas. A product extension merger is between two firms which produce related, but not identical, products. A conglomerate merger is one between two firms which produce unrelated products.

Table III

Petroleum Mergers by Type

	Type					
Year	1	2	3	4	5	Total
1960	3(75)*	1(25)	0(0)	0(0)	0(0)	4
1961	3(37.5)	4(50)	0(0)	1(12.5)	0(0)	8
1962	4(44.4)	3(33.3)	0(0)	1(11.1)	1(11.1)	9
1963	1(8.3)	3(25)	5(41.7)	2(16.6)	1(8.3)	12
1964	4(40)	3(30)	2(20)	0(0)	1(10)	10
1965	0(0)	1(33)	0(0)	1(33)	1(33)	3
1966	1(9.1)	3(27.3)	2(18.2)	1(9.1)	4(36.4)	11
1967	1(14.3)	1(14.3)	3(43.5)	0(0)	2(28.6)	7
1968	0(0)	2(18.2)	6(54.5)	1(9.1)	2(18.2)	11
1969	2(28.6)	2(28.6)	2(28.6)	1(14.3)	0(0)	7
1970	2(25)	1(12.5)	0(0)	3(37.5)	2(25)	8
1971	1(100)	0(0)	0(0)	0(0)	0(0)	1
1972	4(80)	1(20)	0(0)	0(0)	0(0)	5
1973	5(55.6)	0(0)	2(22.2)	2(22.2)	0(0)	9
1974	7(87.5)	0(0)	1(12.5)	0(0)	0(0)	8
1975	0(0)	0(0)	1(20)	0(0)	4(80)	5
1976	5(55.6)	1(11.1)	2(22.2)	0(0)	1(11.1)	9
1977	3(21.4)	0(0)	9(64.3)	0(0)	2(14.3)	14

*Numbers in parentheses are percentages of total.

Tables III, IV and V give some indication that horizontal and vertical mergers declined somewhat in importance in the petroleum area in the latter half of the period. This is in contrast to all mergers, which fell off during the middle part of the period, but picked up again in importance in the last few years examined. It is possible that the public opinion pressure put on the oil industry reduced their reliance on vertical and horizontal mergers, and turned their merger activities in more diversified directions. Conglomerate mergers have not been of great importance in petroleum, with the exception of in 1975, when they made up 80% of all petroleum related mergers. In contrast, conglomerate mergers in the economy in general increased as a percentage of all mergers throughout the period. None of these trends, however, stands out as significant.

Table IV

Over-All Mergers By Type

	Type*					
Year	1	2	3	4	5	Total
1960	9(18)**	5(10)	23(46)	5(10)	8(16)	50
1961	8(17)	8(17)	17(37)	4(9)	9(20)	46
1962	11(17)	10(15)	28(43)	4(6)	12(18)	65
1963	6(11)	8(15)	26(48)	3(6)	11(20)	54
1964	10(14)	12(16)	42(58)	1(1)	8(11)	73
1965	7(11)	8(13)	31(50)	4(6)	12(19)	62
1966	8(12)	8(12)	40(62)	1(2)	8(12)	65
1967	7(5)	13(9)	83(60)	1(1)	34(25)	138
1968	8(5)	13(8)	102(59)	1(1)	49(28)	173
1969	11(8)	11(8)	61(46)	6(5)	44(33)	133
1970	8(9)	3(3)	36(40)	7(8)	36(40)	90
1971	6(10)	2(3)	24(41)	3(5)	23(40)	58
1972	13(22)	10(17)	21(36)	0(0)	14(24)	58
1973	13(23)	7(13)	10(18)	6(11)	20(36)	56
1974	21(34)	3(5)	15(24)	3(5)	20(32)	62
1975	4(8)	3(5)	25(42)	1(2)	26(44)	59
1976	14(17)	4(5)	26(32)	8(10)	29(36)	81
1977	26(26)	4(4)	38(38)	0(0)	31(31)	99

* Types are: 1-horizontal, 2-vertical, 3-product extension, 4-market extension, and 5-purely conglomerate.
** Numbers in parentheses are percentages of the total.

Table V

Percentage of Over-All Mergers Accounted for by Petroleum Mergers By Type

	Type					
Year	1	2	3	4	5	Total
1960	33.3%	20%	0%	0%	0%	8%
1961	37.5	50	0	25	0	17.4
1962	36.4	30	0	25	8.3	13.8
1963	16.7	37.5	19.2	66.7	9.1	22.2
1964	40	25	4.8	0	12.5	13.7
1965	0	12.5	0	25	8.3	4.8
1966	12.5	37.5	5	100	22.2	16.9
1967	14.3	7.7	3.6	0	5.9	5.1
1968	0	15.4	5.9	100	4.1	6.4
1969	18.2	18.2	3.3	16.7	0	5.3
1970	25	33	0	42.9	5.6	8.9
1971	16.7	0	0	0	0	1.7
1972	30.8	10	0	0	0	8.6
1973	38.5	0	20	33.3	0	16.1
1974	33.3	0	6.7	0	0	12.9
1975	0	0	4	0	15.4	8.5
1976	35.7	25	7.7	0	3.4	11.1
1977	11.5	0	23.7	0	6.5	14.1

One factor which complicates this analysis needs to be discussed. The FTC has classified mergers according to merger type in the Statistical Report on Mergers.[5] Along with the listing of the firms involved and the type classification, the Standard Industrial Classification code number for the firms involved in the mergers are provided. In many cases, there is some discrepancy between the classification of the merger and the SIC code numbers given. A merger between two firms with closely related SIC code numbers may be listed as a conglomerate merger, or, more often, a merger between two firms with very different SIC code numbers may be listed as horizontal or vertical. Most likely, this occurrence can be explained by mergers between highly diversified companies, where some overlap does exist in activities, but the major part of their business is not related. The SIC code numbers refer to the majority of their productive output, while the merger classification refers to the overlapping activities.

In general, no surprising trends in merger activity in petroleum either as to numbers or types shows up in this data. The number of mergers loosely follows the pattern for mergers as a whole. No dramatic change can be seen in the make-up of petroleum mergers.

3. JUSTICE DEPARTMENT GUIDELINES AND PETROLEUM MERGERS

3.1 Summary of Guidelines

The Justice Department issued a set of merger guidelines in 1968 in response to business managers' complaints that they had no idea of what was and was not legal.[3] In a sense, these guidelines are negative in nature, with the Justice Department promising to prosecute mergers which fall outside the guidelines but reserving the right to prosecute mergers even if they fall within the guidelines.

The guidelines are divided according to type of merger. For horizontal mergers, the major points are summarized in Table VI, which lists acceptable market shares for acquiring and acquired firms, by concentration ratios. In addition, stricter standards will be applied in cases where a trend toward increased concentration is apparent. Such a trend is evidenced by an increase in the total market share of 7% or more over any time period covering up to ten years prior to the merger among any of the two to eight largest firms in the industry.

Table VI[3]

Justice Department Guidelines for Horizontal Mergers

Concentration Ratio Over 75%	
Acquiring Firm	Acquired Firm
4%	4% or more
10%	2% or more
15%	1% or more

Concentration Ratio Less Than 75%	
Acquiring Firm	Acquired Firm
5%	5% or more
10%	4% or more
15%	3% or more
20%	2% or more
25% or more	1% or more

For vertical mergers, a distinction is made between the purchasing firm's and the supplying firm's market. Mergers will be challenged where a supplying firm accounts for 10% or more of sales in its market, and a purchasing firm accounts for 6% or more of the purchases in that market. Also, mergers will be challenged where a supplying firm accounts for 20% or more of sales in its market, and the purchasing firm accounts for 10% or more of the sales in the market in which it sells its product.

Three major situations are outlined in the case of conglomerate mergers where such mergers will be challenged. First is the category where potential entrants are involved:

"..(T)he Department will ordinarily challenge any merger between one of the most likely entrants into the market and:

"(1) any firm with approximately 25% or more of the market;

"(2) one of the two largest firms in a market in which the shares of the two largest firms amount to approximately 50% or more;

"(3) one of the four largest firms in a market in which the shares of the eight largest firms amount to approximately 75% or more, provided the merging firm's share of the market amounts to approximately 10% or more; or

"(4) one of the eight largest firms in a market in which the shares of these firms amount to approximately 75% or more, provided either (A) the merging firm's share of the market is not insubstantial and there are no more than one or two likely entrants into the market, or (B) the merging firm is a rapidly growing firm."[3]

The second circumstance cited for challenging conglomerate mergers is the threat of reciprocity. A situation where 15% or more of the purchases in a market are accounted for by the seller and buyer is consi-

dered to be dangerous. A merger which appears to have prospects of creating such a reciprocal buying situation will also be challenged.

Finally, conglomerate mergers will be challenged where the firms are in highly concentrated or rapidly concentrating markets, and such a merger "...may serve to entrench or increase the market power of that firm or raise barriers to entry in that market."[3]

3.2 Petroleum Industry Conditions

In order to see how the petroleum industry fits into these guidelines, some information on levels of concentration is necessary. Concentration ratios (four firm and eight firm) for production, refining, refined products, and gasoline are given in Table VII. The highest four-firm ratio for 1974 is the refined products market, with a CR of 31.2%. This is in contrast to an average four-firm concentration ratio for all U.S. manufacturing in 1970 of 40%. Clearly, in the case of horizontal and conglomerate mergers, such mergers escape the stricter guidelines set out by the Justice Department.

Table VII[2]

Concentration in the U.S. Oil Industry

	1965		1970		1974	
	CR_4	CR_8	CR_4	CR_8	CR_4	CR_8
Production	24.6%	39%	26.5%	42.3%	25.9%	42.1%
Refining	30.4	53.5	31.8	56.7	29.8	53.0
Refined products	34.8	61.7	33.8	57.0	31.2	52.3
Gasoline			30.8	55.0	29.9	51.9

To see where petroleum mergers fit in, one must also examine individual firms' market shares. Table VIII lists the top ten firms in each of the production, refining, and gasoline markets. In no case does a single firm have 10% or more of a market. According to the figures presented in Table VIII, any of the firms in ninth place or lower could merge with any of the smaller firms without stepping outside of the horizontal merger guidelines. In addition, there has been no large change in concentration, as defined by the guidelines, which would cause stricter standards to be applied.

In case of vertical mergers, again, there is little evidence that mergers in the petroleum industry have violated the merger guidelines. Since no one firm accounts for more than 10% of the sales in its market, the second rule is not applicable. Without evidence on amount of inter-firm purchases, no final conclusions can be reached concerning the first rule. However, if the assumption is made that a refiner does not purchase a higher percentage of the producing market output than it sells in its market (with similar assumptions for gasoline and refined products), then only mergers among the top few firms would be challenged under the guidelines.

Table VIII[2]

Market Share of Largest 10 Firms in Production, Refining, and Gasoline

	Production		Refining	
1.	Exxon U.S.A.	9.76%	Exxon U.S.A.	9.22
2.	Texaco	8.47	Texaco	9.19
3.	Gulf	6.78	St. of Indiana	7.94
4.	Shell	6.08	Shell	7.69
5.	Socal	5.31	Socal	6.72
6.	ARCO	5.11	Gulf	6.47
7.	St.of Ind.	5.09	Mobil	6.30
8.	Mobil	3.94	ARCO	6.25
9.	Getty	3.38	Sun	4.54
10.	Union	2.88	Phillips	4.24

Gasoline	
Texaco	7.97
Exxon	7.64
Shell	7.47
Indiana st.	6.90
Gulf	6.75
Mobil	6.49
Socal	4.78
ARCO	4.37
Phillips	3.92
Sun	3.67

Finally, none of the rules seem to apply to the conglomerate merger involving a petroleum company, although the market into which the company is buying would play a part in making that determination.

3.3 Some Specific Cases

The Justice Department and the FTC investigated many of the mergers in which petroleum firms were involved over the 1960-1977 period. In most of those cases, as Section 3.2 would suggest, no basis for a challenge was found. A series of mergers between firms in the petroleum and agricultural chemicals industries in 1963, including Continental Oil-American Agriculture Chemical, Cities Service-Tennessee Corporation, and Socony Mobil Oil-Virginia Carolina Chemical, brought forth some warning rumblings from the Justice Department, but no formal challenges were filed. (2/19/63-4, 3/29/63-32, 8/21/63-7, 8/26/63-20)

(All information on cases in Section 3.3 can be found in the Wall Street Journal.[6] Numbers in parentheses refer to dates and pages of relevant articles.) Two mergers were allowed as a part of attempts to reach a settlement in previous antitrust cases. Standard Oil of California was allowed to acquire Standard Oil of Kentucky in 1961 and Atlantic Refining acquired Richfield Oil in 1966. In both cases, the government was convinced that the competitive situation had actually improved as a result of the agree-

ments which included permission for the merger. (6/6/61-2, 6/7/1-9, 1/15/65-5)

In two situations, the Justice Department pursued challenges which were unsuccessful. In order to understand the actions of the Justice Department, it is necessary to have some understanding of the way in which cases are chosen for prosecution.

The antitrust Division does not have sufficient resources to pursue all possible cases. As a result, some method for choosing cases is necessary, wheter or not such a rule is formally stated. Although some attempts have been made to choose cases along the lines of greatest effect on the economy either in terms of size of firms and industries involved or in terms of precedent value, the rule seems to be most often used is to choose cases with the highest probability of a government victory.[7]

In 1961 a proposed merger between Standard Oil of Indiana and Honolulu Oil was challenged. A petition for an injunction was filed by the Justice Department, but the injunction was denied on the grounds that cause for preventing the merger had not been shown by the government, and the case was dropped. (7/5/61-24, 9/20/61-26, 10/12/61-8).
A similar situation took place in 1969 when Atlantic-Richfield began to make merger overtures to Sinclair Oil. Atlantic Richfield's market share in the northeastern states was 7.52% and 2.27% in the southeast. Sinclair had market shares of 4.80% and 4.79% respectively in the two areas. This size of overlap seemed promising for a merger challenge, and an injunction to stop the merger was sought. The injunction was denied. An agreement was later reached, in which some of the overlapping assets were sold to British Petroleum, reducing the possible negative effects of the merger. (1/6/69-8, 1/16/69-2, 1/23/69-14, 2/28/69-8, 3/4/69-3)

These denials of injunction put the wisdom of pursuing these two cases in question for two reasons. First, the inability to obtain an injunction to postpone the mergers indicated a lack of solid government case and signalled to the companies a higher probability of winning. Second, courts are reluctant to force the breaking up of a merger after the merger has been completed. Unscrambling eggs is considered to be a difficult job.

4. SOME COMPLICATIONS

4.1 Market Definitions

Second-guessing Supreme Court decisions is not as easy a matter as may have been implied in Section 3 above. Many precedent-setting merger decisions have turned on the definition of the market, either product or geographic, and economists sometimes have difficulty in following the Court's logic in making market determinations. During the period being discussed here, the Court's tendency was to accept whatever definitions would most easily lead to a decision to disallow the merger.

Two examples from 1964 decisions will illustrate the problem of defining the relevant product market or line. First, Alcoa attempted to acquire Rome Cable Corporation. Alcoa produced aluminum electrical conductor cable and wire, while Rome produced mainly copper conductor cable and wire, but also produced some aluminum products. A number of possible market definitions were possible in the case. Are aluminum and copper cable the same product? Are bare cable and insulated cable the same product? For reasons which do not seem to follow economic logic, the Court chose to accept a definition of the market which separated copper and aluminum cable and which also put the merger in a bad light. (377 U.S. 271-1964).

Similarly, in the Continental Can - Hazel Atlas Glass Company merger, the Court defined the product market in such a way as to necessitate striking down the merger. (378 U.S. 441-1964). In this case metal cans and glass bottles were defined as being in the same market, even though there seems to be less substitution between metal cans and glass bottles than between copper and aluminum cable.

Geographic market definitions have varied as much throughout this period as did product definitions, usually to the benefit of the prosecution. In the Brown Shoe - Kinney case, both a national and a single city definition were accepted for different parts of the case. (370 U.S. 294-1962)

Because of this trend, it is possible that many of the petroleum merger cases which the Justice Department failed to pursue could have resulted in government victories, depending on market definitions.

4.2 Competition or Concentration

The rule of reason approach which the Supreme Court uses in deciding on merger cases is based on a clause in the Cellar-Kefauver Act which states that a merger is banned where "...the effect of such acquisition may be substantially to lessen competition, or tend to create a monopoly."

This concern with competition leads to a question which has never clearly been settled in antitrust law or in economics. Which should be the deciding factor in classifying markets, concentration or behavior? In basic microeconomic theory, one of the most important industry characteristics used in making industry classification decisions is the number of firms in the industry. Yet, in determining the difference between a few firms and a large number of firms a behavioral standard (the firms' interdependence in decision making) is used.

In the Supreme Court cases referred to in Section 4.1, levels and trends in concentration played an important part in decisions to disallow mergers. Behavior did

not seem to be as heavily weighed. It is possible then that rather than being biased against mergers in general, the Court has been biased against mergers in industries with high levels of concentration or with increasing levels of concentration. No such concentration conditions appear in the petroleum industry.

No mention has been made of the behavior of the firms in the petroleum industry. If, in spite of relatively low levels of concentration, the firms in an industry are behaving anticompetitively, one interpretation of the meaning of the Cellar Kefauver Act would provide a strong case for striking down mergers in that industry. The Supreme Court, though, does not seem to have followed this line of reasoning concerning the term competition. Concentration ratios and changes in concentration ratios appear to have held sway over a behavioral interpretation of concentration.

4.3 Vertical Integration in Petroleum

The vertical structure of the petroleum industry is somewhat different than that found in most manufacturing industries in the U.S. The existence of fully integrated companies competing at each stage with companies which are completely nonintegrated leads to some questions concerning market definitions. Perhaps, from a behavioral point of view, it would be sensible to approach the question of concentration in petroleum from the point of view of concentration ratios applied to the integrated firms as a whole, separate from the nonintegrated companies. Although no precedent exists for this approach, it would take into account the unusual structure of the industry while continuing to focus on concentration levels and trends.

5. SUMMARY AND CONCLUSIONS

5.1 Summary

Mergers in which petroleum firms have been involved did not take place at increasing rates during the 1960-1977 period. No startling changes took place in the types of those mergers.

An examination of the Justice Department's merger guidelines indicates that, given concentration levels in petroleum and the importance which the Supreme Court has placed on those numbers, most petroleum mergers fall well within the guidelines. Some questions of market definitions remain unanswered. In addition, questions of behavior within the industry have not been considered here.

5.2 Conclusions

The major conclusion which can be reached from the findings presented here is that the criticism of the Justice Department and of the FTC concerning merger activity in the petroleum industry is unfounded. Given the Justice Department guidelines, Supreme Court precedents, and the conditions in the industry, it is not surprising that few petroleum mergers have been stopped. In fact, the Justice Department made some attempts (mostly unsuccessful) at stopping these mergers.

Without special legislation applying only to the petroleum industry, little action can be expected against petroleum mergers. The two main watchwords of the microeconomist are efficiency and equity. The resources wasted and the confusion which would result from industry by industry antitrust legislation leads to doubts about efficiency of special legislation. Even more important, the equity of such legislation must be strongly questioned.

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BIOGRAPHY

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