Interrelationship of the Behavioral Sciences and Law in International Crisis Decision Making: An Analysis of “The Torrey Canyon Incident” as a Model

The interrelationship of available behavioral science techniques in crisis situations of significant legal import has not been adequately reviewed by the legal community. This is particularly true in the context of private international crises. Most of the available literature pertains to “war-peace” crises (i.e. Cuban crisis, Suez crisis, Cyprus crisis, and the controversial role of the U.N. in the Congo). While of extreme importance, these issues are unlikely to fall within the realm of most practitioners of private international law. These social science tools are also of use to the international attorney in the private international arena.

For the purpose of this paper, the consequences emanating from the collision of a petroleum tanker has been used as a model. In the period from 1965 to 1970 over 94 tankers had foundered. Further, the economic infrastructure of supertanker transportation insures its continued use. The 1956 Suez Canal crisis provided initiative to invest in giant tankers to navigate the Cape passage. Additional capital investment has been made in the dredging of expanded, deeper channels, such as Europoort near Rotterdam.¹

Pollution and the use of supertankers are issues of considerable topical interest. Accordingly, the analysis of an incident of this type in a social science context should be demonstrative of the interrelationship, and usefulness, of the social sciences to the legal environment.

The Torrey Canyon incident is a fairly well documented factual situation involving a definite international crisis of great commercial and legal interest with high saliency to the decision-making bodies and a limited time factor in which decisions had to be made. Accordingly, it appears reasonable the actions taken by the decision makers in the incident will provide an excellent model for

many of the theories and hypotheses contained in the literature on crisis decision making.

As this area as applied to the international arena is largely undeveloped, the purpose of this paper is to assist in establishing the validity of the application of the currently resolved theories to an actual international fact situation. The methods used to make this application were to first make an exhaustive search of available periodical information in order to define the factual setting as fully as possible, a review of the existing applicable literature in the field, and an ultimate comparison of the factual situation against the reasonably anticipated actions of the British Government and three selected peripheral international actors as projected by the literature. To the best of the author’s knowledge, there are no comparable works on this particular topic.

The underlying hypothesis of this paper, that the circumstances and decision-making processes within the legal framework surrounding the Torrey Canyon incident conform to anticipated patterns as predicted in psychological analyses of crisis decision-making situations, was resolved from the factual crisis situation, the organizational structure of the decision makers, the limited alternatives considered by the British Government, and the flurry of international reaction as a consequence of the incident.

This paper is limited in several facets. First, there is a lack of information regarding the personalities of the individual decision makers involved. This is a significant factor and its absence detracts from the validity of the paper. Second, although the particular decisions made by the respective organizations are known, there is a definite lack of information regarding the specific decision-making processes involved in this situation within the structural context of each particular organization.

The author was forced to rely on surmise, as opposed to established fact, in defining the existing decision-making processes. Third, the author was forced to rely on mass media periodicals for much of the factual material. The authenticity of this type of publication is often questionable. However, such periodicals proved to be the major source of factual information in this situation.

Last, and significantly, the literature within the psychological discipline regarding crisis decision making in the international arena is confined to the work of only a few scholars. Accordingly, the theories considered represent the work of a very limited number of students of the psychology of the international arena.

After the author’s hypothesis was tested in the above described manner, it was discovered that the actions of the British Government did fall within the anticipated pattern, but that the actions of the peripheral international actors studied were somewhat other than what would have been anticipated by a study of the relevant literature, although these latter deviations are probably due to
the difficulty in applying the particular disciplinary material in this limited aspect as opposed to constituting absolute deviations from anticipated behavior patterns. The available techniques proved of sufficient validity to be of substantial use to the legal practitioner in the international arena.

Construction of the Torrey Canyon was completed in Newport News, Virginia in March, 1959. She was built to a capacity of 118,285 deadweight cargo tons. The vessel was built under rigid specifications and would have passed muster on a physical basis under the maritime laws of any country. Although the Torrey Canyon was considerably above average in cargo capacity, she was by no means in the "super tanker" class which includes vessels with capacities in excess of 326,000 deadweight tons.

She was owned by the Barracuda Tanker Corporation of Bermuda and was chartered by Barracuda to the Union Oil Company of California.

Union Oil Company of California in turn chartered the vessel on a single voyage charter basis, to British Petroleum Company, Ltd. of Great Britain. Pursuant to common international maritime practice, the Torrey Canyon was registered under a Liberian flag of necessity.

On March 18, 1967, the Torrey Canyon left Kuwait for Milford Haven, Wales, with a cargo of 117,000 tons of crude oil. She steered on a collision course for the treacherous Seven Stones Reef which lies 15 miles west of Land's End, Cornwall. She maintained course for 20 miles without malfunction of automatic pilot, and the experts conclude that the automatic pilot must simply have been erroneously set through a basic navigational error. A Liberian Board of Investigation subsequently determined the collision to be the result of human error, not mechanical malfunction.

After the first impact with the reef and initial rescue attempts, the vessel lost 40,000 to 50,000 tons of oil. The remainder of her cargo, approximately 60,000 to 70,000 tons, remained intact in "honeycomb-type" compartments located in the hold of the vessel. This was the situation with which the British Government was faced, and with which the test was made of the existing literature on international crisis decision making.

A definition of two integral terms is in order before commencing the analysis.

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3In the Oily Wake of a Tragedy At Sea, U.S. NEWS AND WORLD REPORT, April 10, 1967, at 118.
4The Times (London), April 5, 1967, at 5.
8Cowan, op. cit., supra, at 103.
For purposes of this paper, the definition of "organizational international crisis" espoused by Charles F. Hermann is utilized. Three elements are required: a perceived threat to highly salient goals of the organization; a relatively short time period in which to take action; a factor of surprise or unpreparedness on the part of the organizational decision maker. The term "decision" is defined as any act which is a commitment to carry out a specified task, to take on the responsibilities of a social role, or to execute a specified course of action in the future.

As stated in Hermann, Crises in Foreign Policy, supra, saliency, or a threat to a high priority value of the organization must be present. The emphasis here is on the perception of the decision maker of a threat to its salient values or goals. The decision maker must arrive at a policy decision by assessing the facts as they appear at a particular moment in time. Its action must be guided by perception.

The first study is of the British Government. In the situation at hand, there is clearly a highly salient threat perceived by the British Government. Both the loose, free-floating oil, and the petroleum remaining within the tanker, presented a direct threat to bird and marine life, which in fact ultimately caused the death of over 100,000 birds alone. There was an immediate danger of a total loss of approximately $3 million worth of oyster beds along the Cornwall coast.

The threat of the oil also presented an inhibiting effect on the $350,000,000 annual gross tourist trade in the Cornwall coast resorts.

The crucial time factor is apparent as all of the above salient threats were immediate and required prompt action. It is also self-evident that the very nature of the calamity would prevent any anticipation of the crisis by the decision makers. Furthermore, the organizational structure of the British Government insures that the officials were not inclined to worry about things that may happen in the future due to infrastructural pressures and preoccupation with existent, rather than potential, issues.

If the decision makers' goals are clear-cut and uniform, a quick, incisive decision is more likely to be made than in a situation where the goals may tend to conflict. Not only did the British Government have to contend with

10C.F. Hermann, Crisis in Foreign Policy, 29, (The Bobs Merrill Company, Inc., 1969); C.F. Hermann, Some Consequences of Crisis which Limit the Viability of Organizations, 8 Ad. Sci. Q. 61 (June, 1963), at 64.
15Times (London), March 13, 1967, at 3.
16Joseph de Rivera, The Psychological Dimension of Foreign Policy (Charles E. Merrill Publishing Co., 1968), 60.
anticipations of utilitarian goals or losses but also with the potential approval and disapproval of certain reference groups.\footnote{Janis, Decisional Conflicts, supra note 11, at 14.}

Here, the British Government had the immediate goal of protecting its economic interests in terms of damage prevention in the most expeditious and efficient possible manner. By the same token, the decision makers did not wish to raise the ire of the American and British shipping and insurance interests involved which might prove to have a subsequent detrimental effect on its own maritime and industrial interests through retaliatory legal actions, international economic sanctions, or limiting of trade to Great Britain through governmental or private entities.

Further, injudicious release of the oil would probably contaminate the waters of adjacent nations, notably France which would have the potential of giving rise to interesting legal and jurisdictional issues of the liability of a state to permit pollutants and resultant injury to impact on an adjacent sovereignty.\footnote{See In the Trail Smelter Arbitration, 35 Am. J. Int’l L. 684 (1941): 33 id., 182 (1939).}

To complicate the problem, the British populace made its displeasure known and demanded prompt remedial and punitive action. Thousands of private volunteers commenced cleaning beaches, unwary dogs, and over a thousand sea birds per day.\footnote{The Times (London), April 6, 1967, at 4.} This type of conflicting goals situation is anticipated to influence the British organizational decision makers to accept somewhat delusory ideas of the nature of the crisis and its potential solutions.\footnote{STAGNER, op. cit., supra note 12, at 110.}

Accordingly in the light of the conflicting goals one could assume the British Government would definitely take action to protect Britain’s interests but simultaneously attempt less than totally effective measures in the hopes of avoiding harming its own, and foreign, maritime and economic and property interests.

In this situation of stress the decisions are likely to be considered in a sequential manner, not rationally viewing all reasonable alternatives but restricting the choice of alternatives to a limited number of affirmative actions. As stated in de Rivera, supra, the relative importance of immediacy as opposed to long-term costs will create a tendency to grasp at short-term, readily available solutions instead of considering the consequences of such alternatives. Stress may lead an individual to assign to the situation any meaning that will allow him to act.

de Rivera develops this theory further when applying it in the context of an organizational decision maker. First it is considered that the individual’s beliefs are anchored in what the group perceives as real. If one wishes to be taken seriously, he has to accept largely the reality in which others are operating and
thus the individual in the organization begins to think and perceive in consensus terms. The organization will "view" as reality whatever will help establish a consensus.

Accordingly, there is a reinforcement of the loaded, sequential consideration of utilitarian alternatives, but the very organizational structure in which such decisions are made incline the decisions considered to be limited.2 In addition, not only are the considered alternatives fewer, but in the crisis situation a nation's decision makers are more likely to accept one of the first satisfying alternatives that occurs in a crisis situation.22

Accordingly, under the existing facts, and the theories as applied, one could anticipate a limited consideration of sequential utilitarian alternatives which would initially be perceived by the decision maker to be as least harmful to the shipping interests as possible, and therefore, likely to have little remedial effect, and to become progressively more stringent as the ineffectiveness of the initial alternatives become apparent, and as outraged public opinion becomes more vocal.

In fact, this was exactly what happened. First, the British Government attempted to pump the oil remaining in the Torrey Canyon into other vessels afloat just outside the dangerous reef, in an attempt to lighten the vessel in order to float it from the reef. This was perceived to be less injurious to Britain's maritime industrial interests, to protect existing property rights, to avoid legal claims, and to present a potential solution to the pollution problem.

However, high winds and seas soon presented a direct threat to the rescue vessels and this solution was reluctantly dismissed after an eight-day trial.23 On March 26, 1967, a Dutch salvage tugboat, the Utrecht, was utilized in an attempt to pull the Torrey Canyon off the reef and thereby still salvage the vessel and attempt to remove at least part of the pollution threat. In fact, this effort preceded the splitting of the ship into several sections, which sections immediately began to sink.24 It is disputed as to whether the actions of the tug caused the split.25

Although portions of the ship which had sunk remained airtight and the oil in those sections was not a danger to any of the aforementioned British interests, the British Government foresaw this destruction of the vessel as a final removal of the conflicting obstacle with the maritime and financial interests and perceived its path clear to attempt the destruction of the remainder of the vessel and the igniting of the remaining oil in an attempt to burn the petroleum off the sea.

21DE RIVERA, supra note 16, at 27-60.
22Kelman, Decision Making in International Politics, Chapter 12, INTERNATIONAL BEHAVIOR, 457 (Holt, Rinehart & Winston, 1965).
23The Times, April 10, 1967, at 7.
25Cowan, op. cit., supra, at 95.
Accordingly, on March 28, 1967, at the urging of the Royal Navy, the British Government ordered the bombing of the Torrey Canyon and the free floating oil in an attempt to ignite it. This bombing attempt was effected through the use of high explosive bombs, aviation fuel and napalm. The entire attempt was completed by March 31, 1967.26 The bombing attempt proved of doubtful success and the government then attempted to disperse the oil with a detergent which ultimately proved more harmful than the free floating oil.27 As early as 1965, authorities had been warned not to use chemicals to clean up oil spills near shell fish beds by the Ministry of Agriculture, Fisheries and Food.

The attempt, alleged improper, destruction of the oil and the vessel was in fact an issue in contention by the insurers at the time settlement was concluded and was a factor in the ultimate 7 million dollar settlement.28 However, the British Crown has long enjoyed an expanded interpretation of the reasonableness of its action to protect British soil, particularly on the high seas:

His Majesty's Government accepts the view that no State can be expected to tolerate with equanimity circumstances arising under which, owing to peculiar local circumstances, the absence of jurisdiction over foreign vessels on the high seas immediately contiguous to its territorial waters may prejudice gravely the enforcement of the laws or the well-being of the community within its territory.29

Another potential issue arose from the remedial measures taken in that the released oil reached French shores on April 9, 1967. The French expended 158 million francs, the services of 3,000 French troops, and thousands of volunteers to combat the oil.30 However, no claim against England was raised by France, although France did initiate its own actions against the owners and charterers of the Torrey Canyon through arrest of a sister ship at Rotterdam.

In order to make a valid assessment of the effect that crisis played in the sequential utilitarian alternative selection, available alternatives that the British Government might have considered and failed to do so must be present as otherwise the British Government may merely have actually exhausted all possible alternatives. The limited number of alternatives considered might otherwise be due to either the crisis situation or the limited number of alternatives available in any event.

Here, several alternatives were in fact available. The Royal Dutch-Shell group of oil companies are now successfully using chemically treated sand to pull the oil to the bottom of the ocean from which it is then removed. This alternative was available in 1967.31 A recent study was made of remedial oil pollution

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procedures by the International Lake Erie Water Pollution Board of the International Joint Commission.

This study sets forth four tests of procedures for containment of the oil, and four tested procedures for actual removal of the oil. All eight of these procedures were available to the British Government at the time of the Torrey Canyon casualty. None of the eight alternatives is similar to the remedial procedures used by the British Government.³²

Accordingly, it is the author's conclusion that the reactions of the British Government in the Torrey Canyon incident correspond exactly to what might have been anticipated had a psychological analysis of the situation been made. In the light of this conclusion, it is possible that had the behavioral sciences been utilized in a consultative capacity during this crisis, much of the subsequent property damage and financial loss suffered might have been avoided.

Obviously that would have affected both the various legal remedies and the consequences involved. This portion of the study would seem to present a strong argument for the encouragement of further psychological research in the international arena, and the consideration of the behavioral sciences by international decision makers and their legal counsel during the course of their decision-making processes.

The last section of the paper deals with an analysis of the role played by, and the reactions of peripheral international entities in response to the Torrey Canyon incident, which had various impacts on the legal community. For purposes of this paper, three organizations are considered: The Inter-governmental Maritime Consultative Organization of the United Nations; the American Institute of Merchant Shipping; the International Tanker Owners Pollution Federation, Ltd. The first organization is a "public" entity organized as a branch of the United Nations to coordinate international efforts in maritime matters. The latter two organizations are "private" tanker owners federations, the first restricted to owners of vessels registered in the United States of America and the second including members involved in international tanker operations.

The saliency of the incident to each of these organizations is apparent as it affects either their primary source of revenue or the primary purpose of their existence. Similarly, the element of surprise is clear for the incident was not anticipated. The time period, ranging from two to three years from time of incident to time of ultimate reaction, is not quite so clear-cut, but is still sufficient to fall within the realm of the crisis definition. This period is not usually in the international arena in crisis decision making where the technical

work is intricate and detailed and extensive consultations with domestic and foreign parties must be made. 33

With the definition of crisis satisfied, an analysis of the relevant theories may be made. This will be approached by considering the organization, first in terms of what is to be expected from them as organizations, and second, their anticipated behavior as peripheral actors. The C.F. Hermann article, "Some Consequences of Crisis which Limit the Viability of Organizations," supra, will be relied upon to provide the principles pertaining to the effects of the organizational structure.

At pages 66 through 70, the author states, that a crisis will increase the tendency of members of an organization to exercise withdrawal behavior, will tend to intensify any inter-group conflicts existing prior to the conflict, will reduce the total number of channels used for the collection and distribution of information and will contract authority within the organization, all in inverse proportion to the precrisis integration of the particular organization.

As regards their roles as peripheral actors, anticipation may be entertained that any changes caused by the crisis such as new alignments and patterns will be more effective and important in the long run than any of the on-the-spot decisions made by the British Government. It is also to be anticipated that the role of peripheral actors, such as these international organizations, will be minimal during the upswing phase of a crisis and their influence will not increase or be felt until the crisis confrontation becomes full blown in physical terms. 34

In light of the above, we can anticipate that there would be growing conflicts within the organizations, a reduction of assimilation and gathering of information regarding the crisis, a tendency toward contraction of authority in the organization, a tendency of the members of an organization to exhibit withdrawal behavior, formation of new and more effective international relations, and a reaction only after the crisis had presented itself in a physical confrontation.

The Inter-Governmental Maritime Consultative Organization actually became much more active as opposed to its members exhibiting withdrawal symptoms as would otherwise have been anticipated by application of behavioral science techniques. Various work committees were established to study and draft two long-term international conventions to provide: (1) right of intervention of endangered coastal states, 35 and (2) strict liability for future pollution accompanied by a requisite form of insurance similar to the financial

33Kelman, op. cit., supra note 22, at 441-42.
responsibility law of motor vehicle statutes, and (3) a proposed International Pollution Fund to compensate victims of pollution where the damage exceeds the insurance coverage.

All of the above will have considerable impact on the legal profession and on future incidents of this nature. No conflicts were found among the members as all were in apparent agreement as to the desirable steps to take to prevent future loss. In fact, not only were the number of information collection channels maintained, but several were added for the various work committees involved. The organization did not become more centralized in authority, but authority was delegated to the various work committees to study the draft of the proposed convention.

Obviously, the convention proposed by the IMCO and adopted by the United Nations will have a much greater long-range effect in the international arena than will any of the abortive actions taken by the British Government. Further, the actions taken by the IMCO did not occur until after the physical confrontation had been made in the Torrey Canyon incident.

Curiously enough, the actions and reactions of the private International Tanker Owners Pollution Federation, Ltd. followed exactly those discussed above, in the context of the IMCO. The exception is that here the organization, and its work committees, were involved in drafting a private agreement to be signed by all international tanker owners as opposed to an international convention which would be signed by the sovereign nations.

As of 1969, it had been signed by: B.P. Tanker Company Limited, Esso Transport Company Inc., Gulf Oil Corporation, Mobile Oil Corporation, Shell International Petroleum Company Limited, Standard Oil Company of California, and Texaco, Inc. It is also of interest that almost every clause of the private agreement is analogous to the provisions of the international convention. Accordingly, with the reactions being identical it would be redundant to reiterate the analysis of the response of this particular organization.

The American Institute of Merchant Shipping is restricted to owners of vessels flying the American flag. It did not follow the same type of response as the two above organizations. It indicates definite withdrawal behavior for it was formed in January of 1969 as a merger of three long established but overlapping shipping associations, the American Merchant Marine Institute, the Committee of American Steamship Lines and the Pacific-American Steamship Association.

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34International Convention on Civil Liability for Oil Pollution Damage, Art. IX (6), United Nations.
37Tanker Owners Voluntary Agreement Concerning Liability for Oil Pollution, 8 INT'L LEGAL MATERIALS 497 (May, 1969).
The merger was the result of the Torrey Canyon casualty, and was to provide a more influential and effective American maritime association. Information is unavailable regarding possible conflicts in this organization or its predecessors. Here the total number of channels for the collection of information was not reduced. In fact, they were increased to include a specific committee specifically to study the Torrey Canyon incident and its relevant issues to supplement the sources of information it already had in its existent committees.

As the AIMS is the result of the merger of the three prior organizations, it is readily apparent that a contraction of authority which was otherwise distributed in the three predecessor organizations has been made in this crisis situation. Certainly the very purposes for which this organization was formed will serve to insure that it has a more important effect in the long run than the particular actions of the British Government in response to the Torrey Canyon incident. The merger of the three parent organizations into the organization was not initiated until after the physical confrontation had been realized in the Torrey Canyon incident.40

The first two organizations considered would appear to be exceptions to the expected types of reactions set forth in the Hermann article, supra. The example of the American Institute of Merchant Shipping, of course, would verify the theories pronounced by Hermann. All examples seem to support Young's analysis of the expected behavior of peripheral actors. Part of the difficulty with Hermann's projections may be that he places his analyses in the context of an inverse proportion to precrisis organizational integration as opposed to an absolute rule. Accordingly, if the organization, as were the first two, is thoroughly integrated prior to the crisis, the reactions announced by Hermann will be negligible or non-existent. The last organization, which obviously lacked precrisis integration, clearly supports Hermann's views.

It must be emphasized that the three private reactions described are not exclusive. In Tokyo, the Japanese cabinet approved a motion to limit the dumping of oil by tankers within 50 miles of the coast, and if the vessel in question exceeds 20,000 tons, the ship would be totally prohibited from dumping in any waters. The U.S., at the request of the President, immediately formed the National Multi-Agency Oil and Hazardous Materials Pollution Contingency Plan which establishes a pattern for a coordinated response among the Departments of the Interior, Transportation, Defense and Health, Education and Welfare, and the Office of Emergency Planning.41 These reactions have not been studied from a behavioral science perspective, but such

40 All About AIMS, American Institute of Merchant Shipping, October, 1969.
consequences could certainly have been anticipated by astute counsel armed with behavioral science tools, and perhaps influenced by timely advice.

It is the author's conclusion that the consistency between the behavioral science projections of the expected international reactions, and the actions as they in fact did occur, is nothing short of startling. It bears out the potential significance of the behavioral sciences to the political arena and the legal profession, and clearly speaks for encouragement of implementation of psychological and sociological techniques, in legal and political international decision making.

Recognition of behavioral tendencies can be very useful at the time of decision making and in prosecuting or defending claims after such decisions have been made. In fact, such an integration of the disciplines may already be taking place on a greater scale than before. Senator Fullbright stated on June 5, 1969:

It is by no means clear that the tested insights of psychology and anthropology are readily applicable to current political problems. It is possible however that these developing sciences have reached, or are approaching, a level of achievement at which they can provide those of us who have responsibility for practical policy making with valuable insights into our own motives and behavior as well as those of other countries with whom we have dealings.\(^4\)

\(^4\)Hearings before the Committee on Foreign Regulations United States Senate, 91st Congress, 1st Sess., Psychological Aspects of Foreign Policy, at 1, June 5, 19-20, 1969.