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A sociological interpretation of the COLREGS

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This paper discusses issues relating to the practical application of the collision avoidance regulations (COLREGS) from the sociological viewpoint that rules are always contingent, defeasible and that no rule can exhaustively specify the conditions of its use. It is proposed that, due to the inherent nature of rules, the only way successfully to manage collision risks at sea, is physically to separate opposing traffic flows, so as to remove the interpretative and mutually co-ordinating factors from the COLREGS.

KEY WORDS

1. Colregs. 2. Human Factors. 3. Safety.

1. INTRODUCTION. Sociology in general may be defined as 'the systematic study of the development, structure, interaction, and collective behaviour of organised groups of human beings' (Merriam-Webster, 2001). One such structured field of human activity is that of the transport industry and so there have been numerous sociological studies in this field. This has been the case especially with regard to collision, for example: air traffic control (Harper and Hughes, 1993), air transport (Hutchins and Klausen, 1996), rail transport (Heath and Luff, 1996) and marine transport (Hutchins, 1990; Perrow, 1999). The purpose of this paper is to apply a sociological perspective to the operation and application of the International Regulations for the Prevention of Collisions at Sea (COLREGS).

There will first be a description of how the COLREGS came about through the need to control the emergent risks associated with the growth, and technological change, witnessed in the maritime industry. A simple collision avoidance situation will then be used to indicate how the COLREGS are used operationally, before describing a multiple vessel collision avoidance encounter. The multiple vessel collision avoidance encounter will be used to highlight the conflict, tension and lacunae that are inherent within the COLREGS. It will then be argued that these problems can be explored using the sociological literature revolving around the theory of rule use, with specific reference to ethnomethodological sociological studies. Ethnomethodology may be defined as, 'the approach that sets out to uncover the methods and social competence that we, as members of social groups, employ in constructing our sense of reality' (Jary and Jary, 2000: 193). In other words, ethnomethodologists study the methods that people utilise to construct and manage their lives and working environment (Becker *et al*., 1961; Goffman, 1968) so as to gain an understanding of the people, and the society in which they exist, as they perceive it (Garfinkel, 1967).

Various ethnomethodological studies have consistently argued that rules are both contingent and defeasible in their operational use (Bittner, 1965; Wilson, 1974; Bloor, 1980; Heritage, 1984; Baccus, 1986; Coulter, 1991; Bloor *et al*., 2001). This is to say that no matter how a rule is written, it is always contingent in such a way that it is dependent on or conditioned by something else, and that its defeasible nature is due to its capability of being annulled or made void. Furthermore, it will be stated that the one overriding problem associated with prescriptive rules is the fact that no rule can exhaustively specify the conditions of its use. Utilising the casualty rates applicable to head-on situations, it will then be demonstrated how the COLREGS are both contingent and defeasible. Finally, it will be argued that the only successful means of reducing the casualty rate is through the physical separation of traffic, rather than any prescriptive regulations, and that this is a result of the practical problems associated with the operational use of rules, as highlighted by ethnomethodological studies.

2. HISTORY OF THE COLLISION REGULATIONS. As steam ships first began to appear at sea in the early 18th century, new collision risks began to emerge when they encountered the traditional sailing vessels. This change is indicative of the way that hazards and potential threats can be unleashed when new technology emerges within a society (Beck, 1992). To combat this emergent risk, collision avoidance rules were formulated in the 1840s as a means of co-ordinating the collision avoidance actions of the steam ships with those of the sailing vessels (Cockcroft & Lameijer, 1990). The usage of regulations to combat risk has become an accepted form of risk management (Hood *et al*., 1992) and has been utilised in many different industries (Perrow, 1999; Hutter, 2001).

By 1864 the COLREGS had codified the major actions required to avoid collisions, and these founding principles are still recognisable today: giving way to starboard for crossing vessels, altering course to starboard for head-on situations, making the overtaking vessel the give-way vessel and making the stand-on vessel maintain its course and speed (Plant, 1996). Various changes to the COLREGS were agreed upon at maritime conferences over the following century, and these resulted in major rewriting in 1880, 1897, 1910, 1954 and 1960, which reflected the increasing number of ships and technological changes. The latest major rewriting occurred in 1972 after an international conference and a consultative phase with serving seafarers and other professionals (Cockcroft & Lameijer, 1990; Kemp, 2001). These 1972 regulations remain in force today, with minor amendments added in 1987 and 1993, which came into force in 1995.

3. THE ANATOMY OF AN OVERTAKING SITUATION. If a simple overtaking manoeuvre is used to describe a collision risk situation, then the ongoing, proactive nature of collision avoidance, and the way that rules interact, can be illustrated. Rule 13(a) states that 'any vessel overtaking another shall keep out of the way of the vessel being overtaken' and so the overtaking ship is the give-way vessel and should keep clear of the other. Conversely, the other ship is the stand-on vessel and should maintain its course and speed, Rule 17(a)(i). The overtaking ship should now take action to avoid the potential collision, and this should be positive, made in ample time, with due regard to the observance of good seamanship, Rule 8(a) and be large enough to be readily apparent to the other vessel, Rule 8(b). Once the

overtaking ship has taken action, it should check that it has been effective and resulted in passing at a safe distance, Rule 8(d). Throughout this process, the ship being overtaken will have been monitoring the situation and, if necessary, applying rule 17(a)(ii), which allows the stand-on vessel to take action by her manoeuvre alone, if the give-way vessel is not taking appropriate action. From this description several points should be noted:

(a) No distances are prescribed for taking action.
(b) No time frame is given for taking action.
(c) No actions are specifically dictated.
(d) All the collision avoidance is undertaken without the need of radio communication between the vessels (Weber, 1995).

From this it can be visualised how the COLREGS are intended to operate: the Officers of the Watch (OOWs) on each of the vessels have a complete understanding of the situation; they know which rules are to be applied; they comprehend how those rules are to be translated into action; and they know what has to be undertaken in the event that action does not occur. Therefore, the COLREGS operate in an environment of mutual comprehension, understanding and co-ordination, with clear logical steps ensuring clarity and predictability.

3.1. *Conflict, tension and lacunae within the rules.* The above description was that of a simple collision avoidance situation in open waters, between two ships unconstrained in any way; however, in a more complicated situation, the conflict, tension and lacunae within the Rules can be observed. Conflict may be where two rules propose opposing actions, stand-on and give-way; tension is in situations such as Rule 8(f) appearing to create stress with Rule 18(a); and lacunae exists where the Rules do not cover the situation, such as in the case of multiple vessel encounters.

The conflict and tensions associated with the COLREGS can be illustrated by a ship (A) that is following a traffic separation scheme (TSS), with a power-driven vessel (B) crossing from the port side, whilst approaching a vessel (C) engaged in fishing, where risk of collision exists between all the vessels, see Figure 1 below:

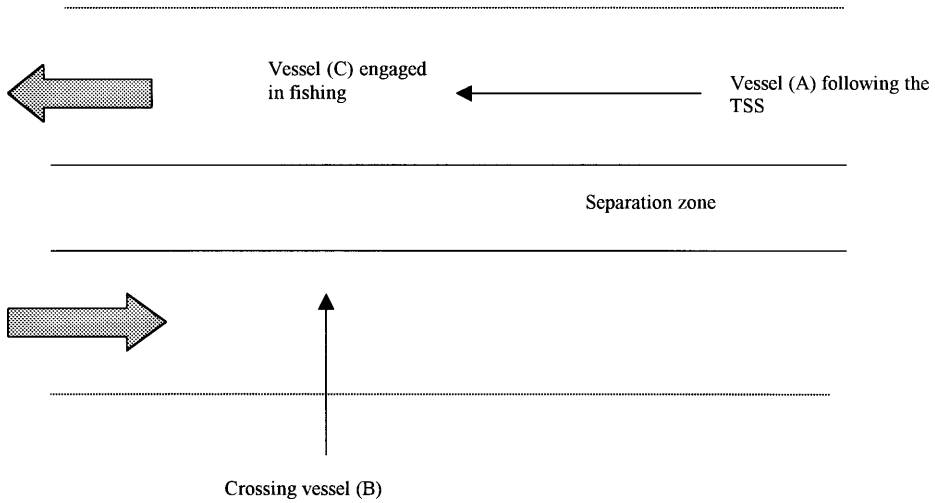

Figure 1. Multiple vessel encounter in a TSS.

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Rule 15 states that, when two power-driven vessels are crossing, the one which has the other on its own starboard side shall keep out of the way. Therefore, the vessel (B) that is crossing from the port side is required to keep clear of the other power-driven vessel (A). The power-driven vessel (A) should, by Rule 17, maintain its course and speed.

However, as a risk of collision also exists between the vessel (C) – engaged in fishing and the power-driven vessel (A) – following the TSS, then action will need to be taken to avoid this possibility. Rule 18(a)(iii) (Responsibilities between vessels) states that 'Except where rules 9, 10, and 13 otherwise require: (a) A power-driven vessel underway shall keep out of the way of: … (iii) a vessel engaged in fishing'. At first sight, it would appear that the vessel (A) following the TSS would need to keep out of the way of the fishing vessel (C). But what Rule 10(i) otherwise requires is that 'A vessel engaged in fishing shall not impede the passage of any vessel following a traffic lane.' Thus, Rule 10(i) takes precedence, and it is clear that the vessel (C) – engaged in fishing must not impede the safe passage of vessel (A). Rule 8(f)(i), (ii) and (iii) further state that, a vessel required not to impede the passage of another should take early action to allow the safe passage; the vessel is not relieved of this obligation when risk of collision is involved and that the vessel whose passage is not to be obstructed remains obliged to comply with the rules.

The conclusion appears to be that there is no longer a stand-on vessel and that the vessel (C) engaged in fishing must not impede the safe passage of the vessel (A) and that vessel (A) must keep clear of the vessel engaged in fishing (Cockcroft and Lameijer, 1990). Furthermore, the status of the two power-driven vessels (A and B) is still in question, as Rule 15 is quite clear, in that it requires only the vessel with the other on its starboard side to alter course. However, it cannot be the case that a vessel should be able to stand-on and maintain its course and speed for one vessel and at the same time be required to keep clear of another (Cockcroft and Lameijer, 1990). Therefore, the requirement for vessel (A) to keep clear of the vessel (C) engaged in fishing must pre-empt the requirement to stand-on for the crossing vessel (B). However, this position of standing on for one vessel whilst under a duty to keep clear of another was stated as a contribution to the collision between the *Norwegian Dream* and the *Ever Decent* (Bahamas Maritime Authority, 2000). Furthermore, the OOW on the vessel (B) that is crossing will need to analyse the situation that is faced in the light of the fact that the vessel (A), that would normally maintain its course and speed, will not (Marine Accident Investigation Branch, 2001) and so 'the collision risk could be compounded if each vessel does not anticipate the action of the other' (Pike, 1995: 437). Therefore, the certainty and predictability that should be the hallmarks of collision avoidance are no longer present.

Plant (1996: 381), with regard to the vessel engaged in fishing, holds a slightly different view in that he believes that the duty not to impede means that the vessel should navigate, 'in such a way as to avoid the development of a risk of collision'. However, once risk of collision does exist, then the other steering and sailing rules come into effect and the COLREGS apply as normal, regardless of the presence of the TSS. 'The effect is not entirely clear, but the intention appears to be that the other steering and sailing rules apply as normal, and that, where apparent conflicts arise between them and Rule 8(f) … the cross-reference [8(f)(iii)] permits the exceptions in Rule 17(a)(ii) and (b) to be applied as necessary. If this is correct the duty not to impede is clearly less onerous than that to afford Rule 18 (a)–(c)'. What Plant is, in

effect saying, is that as soon as risk of collision exists then the normal steering and sailing rules apply and so the vessel (C) engaged in fishing is afforded the rights of the privileged vessel in Rule 18(a)(iii) and is then required to stand-on, so applying Rule 17. Thus, the duty not to impede no longer has any practical effect when risk of collision exists.

From this description it is clear that the certainty and predictability of collision avoidance may be called into question. Furthermore, the resolution of the actions of the theoretical vessels discussed above was eventually reached after a period of time. However, in a real life situation, the OOW is required to reach a decision in a matter of minutes, sometimes tired, stressed, and with the knowledge that if the decision is incorrect then it could result in an accident and subsequent prosecution (Chalos, 2001). In addition, this type of encounter is far from unusual within an area such as the Dover Straits (Lamb and Hunt, 1995). With 400 plus vessel movements in the Dover Straits everyday, it is seen that multiple encounters frequently occur and so the OOW must constantly analyse the situation and see the conflicts in the COLREGS.

3.2. *Independent decision making*. Taylor (1990: 238) has claimed that this uncertainty within the COLREGS arises because 'of the need to decide independently what to do in a situation where other ships may also make independent decisions' and so collision avoidance becomes a 'game of co-ordination since both players have to choose independently mutually compatible strategies' (Cannell, 1981: 221). Therefore, it is hardly surprising that, 'many collisions at sea occur after one or both vessels take action to avoid collision' (Zhao-Lin, 1984: 83; see also Perrow, 1999) when such conflict, tension and lacunae lie within rules designed to apply to all situations. Thus, 'ambiguity is the necessary price of applicability' (Taylor, 1990: 238). In addition, lying at the heart of the problem of applying the COLREGS is the fact that, 'each ship has to understand the actions of the other: actual, likely, and potential' (Taylor, 1990: 238). This brings forth a huge number of variables in almost any given situation and so the OOW must use the COLREGS to analyse and interpret the situation and the subsequent actions of all the people involved. It would then appear that the written word is unable to cope with the sheer number of variables in any given situation as 'the variety of rules developed to govern safe behaviour will always be less than the possible variety of unsafe conditions' (Reason *et al*., 1998).

4. ETHNOMETHODOLOGICAL STUDIES OF RULE USE.

As previously stated, ethnomethodology may be defined as 'the approach which sets out to uncover the methods and social competence that we, as members of social groups, employ in constructing our sense of reality' (Jary and Jary, 2000: 193). This is to say that, sociologists will study the methods that people utilise to construct and manage their lives and working environment (Becker *et al*., 1961; Goffman, 1968) so as to gain an understanding of the people, and the society in which they exist, as they perceive it (Garfinkel, 1967). From these, and other studies, it has been seen that the traditional view of rules 'as external factors governing, even determining, the behaviour of those subject to the rules' (Harper and Hughes, 1993) has been overturned and in its place is a belief that rules are both contingent and defeasible (Bittner, 1965; Wilson, 1974; Bloor, 1980; Heritage, 1984; Baccus, 1986; Coulter, 1991; Bloor *et al*., 2001). Thus, no matter how a rule is written, it is always contingent in such a way that it is dependent on or conditioned by something else and that its defeasible nature is due to its capability of being annulled or made void. Therefore,

in practice, it has been found that people do not bureaucratically follow prescriptive rules, but rather utilise their own experience and stock of knowledge to adapt the rules to their own perception of the reality of the situation.

Furthermore, many operators see this rule bending as a feature of both their own knowledge and experience (Keating, 2001) and that they are able to account for their actions as being within the rules so as to demonstrate their competence within an organisation (Bittner, 1965). Therefore, the collision avoidance procedures that seafarers utilise at sea are elaborations, albeit reasonably stable ones, of the COLREGS, and this phenomena has been shown to be a feature of non-rule following behaviour, especially in routine activities (Bloor, 1980). Such stable elaborations of the COLREGS can be seen with respect to ferries crossing the Dover Straits. Here, it has been found that the OOWs on the ferries will keep clear of the traffic that is following the TSS, rather than rigidly complying with Rule 15 (Pike, 1997; Millns, 1997; Cockcroft, 1998a; Millns, 1998; Webber, 1998; Clements, 1998). Therefore, the ethnomethodological view that rules cannot be prescriptive, as they are always open to interpretation, is found to exist at sea, for the major argument is that no rule can exhaustively specify the conditions of its use. This is to say that regardless of the number of explanatory notes attached to the rule, it will never cover all the situations that occur. Therefore, the ethnomethodological position on rules can be summarised as:

(a) Rules are always inherently contingent.
(b) Rules are always defeasible.
(c) Rules are used by operators to account for and justify their actions.
(d) No rule can exhaustively specify the conditions of its use.

In fact the authors of the COLREGS actually anticipated these factors when they included the phrase 'the ordinary practice of seamen' contained within Rule 2(a) (Responsibility). As it would not be within the auspices of the ordinary practice of seamen to collide, this phrase envisages non-rule following behaviour as it could be cited as a resolution to the problem of both standing-on for one vessel whilst being obliged to give-way to another. However, some authors have proposed solutions to the perceived problems within the COLREGS, and these will be discussed with respect to head-on situations.

5. HEAD-ON SITUATIONS. The proposed resolution of the problems associated with the COLREGS revolves around removing the elements of indecision and confusion that lie within them (Syms, 1996; Plant, 1996; Cooper, 2001; Kemp, 2001). To undertake this, it has been stated that the rules should be made simpler, clearer and less open to interpretation (Cunqiang, 1996; Hinsch, 1996; Pike, 2001). Allied to this would be the need to remove the privileged status of the stand-on vessel, required in several of the steering and sailing rules (Syms, 1996; Thomas, 1994). Therefore, to explore this idea that to prevent collisions the seafarer should be provided with simple rules, a comparison will be made between the rules that govern the actions of vessels in head-on situations, in both clear and restricted visibility, with the casualty record resulting from such encounters. The casualty record used spans the period when both the 1960 COLREGS (Statutory Instrument 1965/1525) and 1972 COLREGS (Statutory Instrument 1996/75) were in force and this necessitates a description of both sets of regulations.

Rule 14 (Head-on situations) of the current COLREGS (Statutory Instrument 1996/75) (see Appendix 1) and Rule 18, of the 1960 COLREGS (Statutory Instrument 1965/1525) (see Appendix 2), both covered this type of encounter. These rules define precisely: which vessels the rule applies to (power-driven), what situations are applicable (reciprocal encounters/end on), when this situation exists, when it does not exist, what action shall be taken by both ships (alteration of course to starboard) and what this alteration should result in (passing each other on the port side). From this, it is apparent that the Rules (14 and 18) are clear, both in the present and past, in that there should be no misunderstanding of what head-on means, that there are no stand-on vessel problems (as both vessels are required to take action) and that there is no inclusion of a phrase such as 'if the circumstances of the case admit.' Therefore, these Rules contain all the elements that are required to clarify the COLREGS, so as to make them simple, easy to operate and effective.

Rule 19 of the current COLREGS (Statutory Instrument 1996/75) is another rule that is simply constructed and clear-cut. It applies to all vessels not in sight of one another and section (d) is of direct importance to head-on situations. Section (d) directs the seafarer to ascertain whether risk of collision exists and then states the action that is to be undertaken:

> … when such action consists of an alteration of course, so far as possible, the following shall be avoided: an alteration of course to port for a vessel forward of the beam.

Therefore, it is required that, when two vessels are meeting head-on and risk of collision is present, a starboard alteration of course is required. A very similar requirement was included in recommendation 6 of the annex to the 1960 COLREGS (Statutory Instrument 1965/1525) where it states that:

> An alteration to starboard, particularly when vessels are approaching apparently on opposite or nearly opposite courses, is generally preferable to an alteration to port.

5.1. *Casualty rates in head-on situations.* From this description of the rules applicable to head-on situations, it can be seen that they are both clear and simple in the actions that are required to avoid collisions and consistent, regardless of the visibility, as both vessels are required to alter course to starboard. Therefore, all head-on situations (past and present, clear and restricted visibility) are governed by simple, clear rules that specifically define the actions that both of the vessels must take to avoid collision. Cockcroft (1982), in his extensive analysis of collisions, found that 26% (59 out of 227) of collisions in clear visibility resulted from head-on or fine crossing situations. However, it was shown that in restricted visibility this proportion increased to 72% of collisions (357 out of 497) for the same encounter direction. This research involved the collection of accident reports from more than 50 per cent of vessels involved in collisions between the years 1968 and 1977 and analysing them for the direction at which the vessels encountered each other.

What this research clearly shows is that the single most important factor in a collision is not the clarity of the rule governing the situation, but the visibility at the time of the encounter. This point is further emphasised by Lewison's (1980: 322) research into the estimation of collision risk where it is stated that, 'the number of collisions to be expected per million potential encounters depends primarily on the visibility, and is approximately 6 in clear weather, 60 in mist and fog, and 900 in thick

or dense fog'. Thus, it can be stated that the relative clarity of the written word relating to the definition of the collision avoidance situation is of little importance alongside other factors such as the state of the visibility.

5.2. *Parallel course near miss situations*. In addition to these points, the head-on rules only apply when there is risk of collision, whereas many situations at sea involve two vessels passing very close to one another on parallel courses. Zhao *et al*. (1995) investigated this encounter using vessels passing at varying distances, on parallel courses on a radar simulator. It should be noted however, that there are problems associated with the use of radar simulation as Lamb and Hunt (1995) stated, 'the mariners taking part in a radar simulator study would have known that they were not dealing with a real situation and would almost certainly have tended to be somewhat less cautious in carrying out avoidance manoeuvres, since there was little or no psychological pressure or serious penalty as would exist in real life.' This does not mean that simulator studies should not be used, just that some caution should be allowed when converting their findings into real world examples. What Zhao *et al*. found was that the situation that caused the most concern to those taking part was an encounter where the vessel passed one mile down the starboard side. Those taking part in the study would alter course at varying times and in different directions and so did not interpret the parallel course near miss situation in a consistent way. From this it can be seen that even in a tightly monitored environment, where people involved in the study are more likely to follow the *correct* interpretations of a rule (Taylor, 1998), it was found that varying results were provided in situations slightly deviating from that envisaged by Rule 14. Therefore, if the seafarers could not apply a very simple prescriptive rule, to a marginally deviant situation, then it must be seen that there can be little hope for the OOW when faced with a significantly more complicated situation involving a great concentration of vessels. Further evidence of the inability of the COLREGS to be expressed well enough in operational terms is afforded by the drop in the casualty rates seen when a TSS is introduced to an area.

5.3. *Casualty rates and TSSs*. Over the last few decades there has been an increase in the number of ships at sea (Bloor *et al*., 2000) and a greater concentration of those ships in certain areas, due to the port industry introducing the concept of hub ports (Reyes, 2000). However, as was previously shown, the COLREGS could not be applied successfully so as to regulate the flow of traffic and so another solution was required. This solution has been in the form of setting up TSSs, which are regulated in Rule 10 of the COLREGS, in areas of great concentrations of traffic. In a TSS, the opposing flows of traffic are physically separated from each other in such a way that head-on encounters should not occur.

Once a TSS was set-up in the English Channel and Southern North Sea there was a striking fall in the casualty rate. The incidence of collisions occurring in the Dover Straits section fell from 142 (for the period 1956–1965) to 37 (for the period 1971–1980) (Cockcroft, 1982). Furthermore, prior to the introduction of the TSS, 'nearly half of the collisions in the world took place in an area bounded by the Elbe and the English Channel' (Richey, 1966: 354). However, it could be argued that this fall in numbers of collision could, in part, be accounted for by: a reduction in the incidence of fog in the area (Dare and Lewison, 1980); the operation of the Channel Navigation Information Service (Maritime and Coastguard Agency, 1999); the implementation of the 1972 COLREGS (Statutory Instrument 1996/75); and improvements in anti-collision radar technology. Therefore, the case of the Turkish

Straits should also be highlighted. In July 1994, a TSS scheme was set up in the Turkish Straits and the incidence of collisions fell from 155 (for the period 1990–1993) to 11 (for the period 1995–1998) (Cockcroft, 1998b; Grey, 2001). During this period there were no great changes in technology and the COLREGS remained the same. Therefore, the reduction in the collision rate can be attributed directly to the introduction of the TSS.

Thus, with the introduction of the TSS, the seafarers should no longer be called upon to implement the head-on rules, as those situations were effectively eliminated. Vessels passing in different directions are physically separated from each other by the TSS and so head-on collision situations should not arise and so there becomes no need for the seafarer to attempt to interpret operationally the relevant COLREGS and thus, the casualty rate has improved dramatically. Although it should be noted that some rogue vessels navigate the wrong way along the traffic lane (Dare and Lewison, 1980). It should also be remembered that the imposition of a TSS scheme does not remove all the problems associated with the COLREGS (see section 3.1.). Nevertheless, the implementation of a TSS does reduce the number of head-on situations and so greatly reduces the casualty rate.

6. CONCLUSION. From this review of the literature of problems associated with the COLREGS and their relationship with casualty rates, it should be apparent that, due to their contingent and defeasible nature, prescriptive rules are insufficient as a means of risk management. This is especially true when viewed against the theoretical background of the sociological literature, in relation to an ethnomethodological interpretation of rule use. Furthermore, prescriptive rules can never cover all situations as 'the variety of rules developed to govern safe behaviour will always be less than the possible variety of unsafe conditions' (Reason *et al*., 1998).

Therefore, it should be apparent that the most effective means of managing the risks associated with collision avoidance should not be through some means of complete understanding gained through a mutual, non-communicative, comprehension of the traffic situation, and the subsequent application of prescriptive rules, but through the physical separation of vessels such that risk of collision no longer exists. Once the risk of collision is removed from the equation, then the OOW is no longer required to attempt to implement rules, which cannot be adequately expressed in operational terms due to their inherent problems. Therefore, safety at sea would be further improved, not through the addition of rules, but through the effective removal of ones that cannot be adequately used in practice.

From this discussion it should be seen that, sociological studies have a role to play in the study of marine traffic and should form the basis of research in the future, so as to assist in the improvement of safety at sea.

Appendix 1

Rule 14 of Statutory Instrument S.I. 1996/75

Head-on Situation:

(a) When two power-driven vessels are meeting on reciprocal or nearly reciprocal courses so as to involve risk of collision, each shall alter her course to starboard so that each shall pass on the port side of the other.

(b) Such a situation shall be deemed to exist when a vessel sees the other ahead or nearly ahead and by night she could see the mast head lights of the other in a

line or nearly in a line and/or both sidelights and by day she observes the corresponding aspect of the other vessel.

(c) When a vessel is in any doubt as to whether such a situation exists she shall assume that it does exist and act accordingly.

Appendix 2

Rule 18 of Statutory Instrument S.I. 1965/1525

(a) When two power-driven vessels are meeting end on, or nearly end on, so as to involve risk of collision, each shall alter her course to starboard, so that each may pass on the port side of the other. This Rule only applies to cases where vessels are meeting end on, or nearly end on, in such a manner as to involve risk of collision, and does not apply to two vessels which must, if both keep on their respective courses, pass clear of each other. The only cases to which it does apply are when each of two vessels is end on, or nearly end on, to the other; in other words, to cases in which, by day, each vessel sees the masts of the other in a line, or nearly in a line, with her own; and by night, to cases in which each vessel is in such a position as to see both the sidelights of the other. It does not apply, by day, to cases in which a vessel sees another ahead crossing her own course; or, by night, to cases where the red light of one vessel is opposed to the red light of the other or where the green light of one vessel is opposed to the green light of the other or where a red light without a green light or a green light without a red light is seen ahead, or where both green and red lights are seen anywhere but ahead.

(b) For the purposes of this Rule and Rules 19 to 29 inclusive, except Rule 20(c) and Rule 28, a seaplane on the water shall be deemed to be a vessel, and the expression 'power-driven vessel' shall be construed accordingly.

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