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Radar in the Courts

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According to an Associated Press survey, the results of which were released on July 26, 1954, twenty-nine states were then using radar for traffic control either locally or on a state-wide basis. However, only a few of these states have statutes on the matter, and since the use of radar for traffic control is relatively new, there are only a small number of cases on the subject. All the regularly reported cases to date have arisen in states having no special legislation on the use of radar devices, and none of these cases is from a court of highest resort. The recently passed Virginia statute governing the use of radar for traffic control became effective July 1, 1954. Perhaps by setting forth that statute in detail we may discuss more easily the use of radar in the courts.

> § 46-215.2. **Checks on speed by use of electrical device; prima facie evidence of speed; arrest without warrant where signs show legal rate of speed.**—(a) The speed of any motor vehicle may be checked by the use of radiomicro waves or other electrical device. The results of such checks shall be accepted as prima facie evidence of the speed of such motor vehicle in any court or legal proceedings where the speed of the motor vehicle is at issue.
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> (b) The driver of any such motor vehicle may be arrested without a warrant under this section provided the arresting officer is in uniform or displays his badge of authority; provided that such officer has observed the recording of the speed of such motor vehicle by the radiomicro waves or other electrical device, or has received a radio message from the officer who observed the speed of the motor vehicle recorded by the radiomicro waves or other electrical device; provided in case of an arrest based on such a message that such radio message has been dispatched immediately after the speed of the

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motor vehicle was recorded and furnished the license number of the vehicle and the recorded speed to the arresting officer.[1]

(c) No operator of a motor vehicle may be arrested under this section unless signs have been placed at the State line on the primary highway system, and outside cities and towns having over 3500 population, on the primary highways to indicate the legal rate of speed and that the speed of motor vehicles may be measured by radiomicro waves or other electrical devices.

(d) Nothing herein shall affect the powers of cities or towns to adopt and use such devices to measure speed.[2]

This statute appears to be well drawn and should leave little room for argument about its meaning.[3]

Entrapment

Neither animal nor motorist likes to be trapped. Indeed, entrapment under certain circumstances is regarded as a defense to criminal prosecution. Also, the practice of trapping motorists may damage police relations with the public, making it difficult for those caught to believe that the police are their servants and friends, rather than fiends out to get them by fair means or foul in order to fill an arbitrarily required quota of arrests. Such an attitude may in turn develop bitterness and antisocial feelings, especially in the young. To prevent this unhappy result, some states by statute have eliminated the possible use of speed traps.[4]

The constitutionality of one such statute has been upheld on the ground

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1. Section (b) is obviously desirable since in the absence of statute an officer has no right to arrest for a misdemeanor not committed in his presence unless he has a warrant. In the case of two-man teams the misdemeanor is committed in the presence of the one who takes the reading and not in the presence of the one who effects the arrest.

2. Va. Code § 46-215.2 (Supp. 1954).

3. The Maryland statute is much shorter:

> In any legal proceeding of any nature the speed of a motor vehicle may be proved by evidence of a test made upon such vehicle with any device designed to measure and indicate or record the speed of a moving object by means of radio-micro waves. Such evidence shall not be introduced in any proceedings to enforce motor vehicle speed limits unless the highway or road on which such device was used was clearly marked within four miles of said device. Md. Ann. Code Gen. Laws art. 35, § 99 (Supp. 1954).

4. The California statute on speed traps reads in part:

> (a) No peace officer or other person shall use a speed trap in arresting, or participating or assisting in the arrest of, any person for any alleged violation of Division IX of this code [*i.e.*, Vehicle Code] nor shall any speed trap be used in securing evidence as to the speed of any vehicle for the purpose of an arrest or prosecution under this code. Cal. Vehicle Code § 751 (1948). See also Cal. Vehicle Code § 752 (Supp. 1953). See a similar provision in Ore. Rev. Stat. § 483.112 (1953).

that the legislature may well have thought that actively patrolling the roads was the best method of preventing illegal speeding, and that prevention of crime is far better than apprehension after a *preventable* crime has taken place.[5] It has been seriously contended that these statutes preclude the use of radar. So far as the writer has been able to ascertain, radar devices are not now being used in California, which has a statute on speed traps; hence there is no judicial ruling on the matter in that state.

However, traps do serve useful purposes. Our problem is to determine how to secure the advantages of traps without their disadvantages. The writer does not subscribe to the theory that the police must always say in effect, "We are about to check your speed" before they have a right to make the check. It should be sufficient that everyone has a fair warning that a particular device is, or may be, in use and that violation of the law is at one's peril. Whether a driver speeds or not is largely a matter of psychology in which such elements as reason, consideration for others, and likelihood of apprehension are all important factors.

A good friend of the writer who handles many criminal cases stated flatly that he did not like radar. The reason seemed to be that it stacked the cards against an offender and made an acquittal a very difficult matter, indeed. But these reasons are merely the reasons of the old woman and the fox hunter—the old woman's reason that it imposes hardship on a person not to give him some avenue of escape, the fox hunter's reason that it is not a sporting proposition. But law is not, nor should it purport to be, a game, and a game of chance at that. The object of the criminal law is the elimination, or at least the reduction to an irreducible minimum, of crime. A high probability of apprehension is an enormous factor in securing that objective, especially among those of our fellow citizens who for the time being do not understand any other language.

Judicial Notice and Related Topics

A very practical consideration is whether the courts will take judicial notice of the accuracy of radar speed meters, or whether, as a condition to the admission of such evidence, expert testimony must first be had as to the *modus operandi* and the reliability of the results.

The first reported case seems to be *People* v. *Offermann*.[6] The defendant was charged with proceeding at a rate of 41 miles an hour in a 30 mile-an-hour zone in the City of Buffalo. The only evidence against her was the testimony of three policemen as to the radar speed meter reading.

5. Fleming v. Superior Court, 196 Cal. 344, 238 Pac. 88 (1925).
6. 204 Misc. 769, 125 N.Y.S.2d 179 (Sup. Ct. 1953).

A police officer who was not an engineer or a physicist, but who had had many years of practical experience in police radio work, testified over objection as to the accuracy of the device. Both sides moved for an adjournment so that an expert could be produced, but the motions were overruled. In anticipation of cases of this sort coming up, the trial judge had been shown how the radar equipment worked. He had driven his own car and had been clocked by the radar device at 54 miles an hour, which was the exact speed he was traveling as shown by his speedometer. The defendant was convicted. She appealed.

The appellate court held that at least two errors were committed in the above-described procedure. First, it was an abuse of discretion to allow a man unacquainted with the theory of radar (even though he had had practical experience) to testify as an expert, and in this connection it was error to refuse to grant an adjournment to enable the parties to call in a real expert. It was also an error for a trial judge to base his decision in whole or in part on what the court called "an unauthorized view."[7] The court also stated:

> . . . it [the science of electronics] must not bring push button justice unless and except such justice is surrounded by the long-established rules of evidence.
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> The legislature in its wisdom might see fit to declare that the reading of an electrical timing device similar to the one here may be admitted in evidence as prima facie evidence of the speed of the automobile of an accused, after such device has been certified as accurate by the authority designated by the legislature. By such legislation, the People will be relieved of the burden of proving the accuracy of the electrical timing device upon each trial and by expert testimony. The traveling public will be protected against convictions based upon the reading of an unproven and possibly inaccurate device, and of equal importance, the rules of evidence will not be violated.[8]

It will be noted that the Virginia statute expressly provides that the results of such checks shall be accepted as prima facie evidence of the speed of such motor vehicle in any court or legal proceedings.[9] But it is also stated that "[n]othing herein shall affect the powers of cities or towns to adopt and use such devices to measure speed."[10] It should be noted that cities and towns may use radar to check speed provided, of course, they

7. *Id.*, 125 N.Y.S.2d at 184.
8. *Id.*, 125 N.Y.S.2d at 185.
9. VA. CODE § 46-215.2(a) (Supp. 1954).
10. *Id.* at (d).

comply with federal laws. But if they do, and if this section of the code is held not to apply to cities and towns of more than 3500 population, then the same common-law principles of evidence would seem to be applicable as in states where radar is now being used without statutory authority.

So far, all courts of appellate rank have refused to take judicial notice of the accuracy of radar speed readings in the absence of a statute so requiring. In two New York cases[11] Dr. John M. Kopper, an electrical engineering teacher and research worker in the field of electrical installation and automatic control at the Johns Hopkins University, qualified as an expert. He testified in detail regarding the construction of the radar speed meter "and by means of diagrams, charts and formulas explained its operation and the principle involved in determining the speed of moving vehicles. He also testified that the operator of the recording equipment can tell when it is 'out of calibration' and may 'quite easily' determine when the machine is not working properly."[12] And in a New Jersey case[13] this same expert testified on cross-examination that "if any defects in the radar equipment were to develop, such as defective tubes or condensers, or low voltage in the battery, it would all tend to decrease the number of electrons emitted from the heat surfaces within the tubes and give a lower and less than true reading. All defects in the equipment resolve in favor of the motorist."[14]

In one case[15] the court stated that evidence gained by radar would not be admitted unless an expert witness also testified:

> No expert testimony was offered on the part of the People to establish the fact that the so-called radar equipment is a mechanism that correctly and accurately records the speed of passing automobiles. The use of radar is comparatively new as a means of bringing about the arrest of violators of ordinances pertaining to the speed of automobiles and until such time as the courts recognize radar equipment as a method of accurately measuring the speed of automobiles in those cases in which the People rely solely upon the speed indicator of the radar equipment, it will be necessary to establish by expert testimony the accuracy of radar for the purpose of measuring speed.[16]

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11. People v. Katz, 129 N.Y.S.2d 8 (Yonkers Ct. Spec. Sess. 1954); People v. Sarver, 129 N.Y.S.2d 9 (New Rochelle Ct. Spec. Sess. 1954).

12. People v. Katz, 129 N.Y.S.2d 8 (Yonkers Ct. Spec. Sess. 1954).

13. State v. Dantonio, 105 A.2d 918 (County Ct. N.J. 1954).

14. *Id.* at 921.

15. People v. Torpey, 128 N.Y.S.2d 864 (County Ct. N.Y. 1953).

16. *Id.* at 866. This view is supported in a case comment in 5 MERCER L. REV. 322, 323 (1954) on the ground that "the modern mind has a tendeucy to pay homage to the advancements of science by accepting without question hypothesis [*sic*] coming even from the very frontiers of research."

It is submitted that such a view creates an unjustifiable lag between natural laws discovered and utilized by science and the recognition of these laws by the courts. There is no disagreement among the experts. The average man is as capable of understanding radar as he is radio, telephone, television, or blood types. It is not like the lie detector, or even the drunkometer, where variable human elements must be considered. The use of ordinary speedometers has long been accepted.[17]

Under the *Uniform Rules of Evidence*, already approved by the American Bar Association at its 1953 meeting, judicial notice "shall be taken without request by a party . . . of such specific facts and propositions of generalized knowledge as are so universally known that they cannot reasonably be the subject of dispute."[18] Radar speed meters are now in this category. Why should the time of experts be wasted and the expenses of litigation be increased by compelling such men to appear in court after court telling the same truths over and over? While it is agreed that every reasonable doubt about the accuracy of new developments should promptly be resolved against them in the absence of expert evidence, there is no longer any such doubt concerning radar. Rather, the applicable maxim should now be, "What the world generally knows a court of justice may be assumed to know."[19]

Courts have agreed that the mere fact that the radar equipment was operated by a person or persons not skilled in electronics is not of sufficient import to render the radar speed meter readings inadmissible in evidence since such operation is of a ministerial nature.[20] Nor, of course, is it material whether or not judge or jury agree with the policy of hidden radar equipment to detect the speed of vehicles upon the highways.[21]

In only one case, as far as the writer could ascertain, has the defendant attempted to prove the inaccuracy of the radar speed meter.[22] In this case the defendant bus driver's vehicle was equipped with a tachograph,

17. Spokane v. Knight, 96 Wash. 403, 165 Pac. 105 (1917).

18. Uniform Rules of Evidence, Rule 9 (1954).

19. People v. Beck, 130 N.Y.S.2d 354, 356 (Sup. Ct. 1954), quoting from People v. Gitlow, 234 N.Y. 132, 143, 136 N.E. 317, 321 (1922). Yet the court in this case refused to admit that the accuracy of radar was at present generally known and reversed a conviction based partly on radar speed meter results and partly on eyewitness testimony as to speed, stating that the latter was admissible but the former was not unless supported by expert testimony. Since it did not appear that the verdict was based solely on the admissible evidence the case was reversed and remanded.

20. State v. Moffitt, 100 A.2d 778 (Super. Ct. Del. 1953); State v. Dantonio, 105 A.2d 918 (County Ct. N.J. 1954).

21. *See* State v. Moffitt, 100 A.2d 778, 780 (Super. Ct. Del. 1953).

22. State v. Dantonio, 105 A.2d 918 (County Ct. N.J. 1954).

an instrument which records speeds as shown by the speedometer on a revolving cylinder. The court heard both tachograph and radar experts, and in this battle royal the radar won in spite of a five miles-per-hour difference.

The Hearsay Problem

The radar equipment is customarily checked before it is used. Usually one officer runs a police car through the radar beam and by radio reports his speedometer reading to another officer, who is operating the radar equipment. If the readings of the car speedometer and the radar device are the same, the radar equipment is accurate and may be used. This same check is made after the device is used. If the two recordings are again the same there is good reason to believe that the intermediate readings are correct.

In one case[23]—the only one in which the point was discussed—the court held testimony of these checks to be inadmissible hearsay, for each officer had no firsthand knowledge of what the other officer told him. He knew only what he had heard. If the testimony of the officers as to the accuracy of the radar speed meter is required as part of the plaintiff's case, and the holding above is correct, a grave problem of proof is raised. But is it correct?

The holding seems to be overly technical and overlooks the fact that the officer is testifying to the fact of utterance of one meter reading and the actual reading of the other meter. Thus, the hearsay rule does not apply. Each officer has firsthand knowledge that his mechanism showed the same speed as was called by the other. The testing was a joint undertaking, and all the parties thereto can be present in court, put under oath, and thoroughly cross-examined. There is no reason to falsify, and the statements as to coincidence of reading are made in the usual course of duty. It has been held in a number of cases that one person could testify as to the fact that another had called out a certain automobile license number and that he had written that number down and, according to his writing, the number was such and such.[24] It would seem on the same principle that in testing the radar equipment the fact of coincidence of speedometer and radar device readings could be testified to by those having firsthand knowledge thereof, the fact of intercommunication being collateral to the fact of knowledge of coincidence.[25]

23. People v. Offermann, 204 Misc. 769, 125 N.Y.S.2d 179 (Sup. Ct. 1953).

24. Chalmers v. Anthony, 8 N.J. Misc. 775, 151 Atl. 549 (Sup. Ct. 1930).

25. See 7 Vand. L. Rev. 411 (1954).

The Prima Facie Case

In Virginia what must the prosecution show in order to make out a prima facie case? In order to avoid probable argument the prosecution should offer proof:

(1) That the officer effecting the arrest was in uniform or displayed his badge of authority.

(2) That the signs required by statute had been properly placed.

(3) That the radar mechanism was properly functioning.

(4) That the defendant was the driver of a car which was shown by the radar speed meter to be traveling at a rate of speed made uulawful by statute.

(5) That the radio communication between the officers took place immediately after the recorded violation, and that the alleged violator's license number was given to the arresting officer, or that the observing officer himself effected the arrest.

It is highly arguable that (1), (2), and (5) above relate only to the right of the officer to arrest, and are no part of the prosecution's prima facie case. Note that the code does not state that if the conditions stated above are not met the evidence is inadmissible or that no conviction can be had. There is a vast difference between an illegal arrest for a crime, and absolute immunity from prosecution for the crime.

With respect to the erection of the signs, it frequently would be the case that the officers would not have firsthand knowledge of this matter. To remedy this situation, it has been suggested that the State Highway Commissioner prepare an official table or map showing the location of all such signs and send duly certified copies to all commonwealth attorneys. This would obviously facilitate matters.

It is also plain that a statute making proof of certain facts prima facie evidence of a criminal offense does not affect the ultimate burden of proof.

Summary

The decision of a case involving a speed law violation in Virginia based on radar evidence alone raises the following issues:

(1) Must expert evidence be introduced to establish the reliability of radar equipment?

(2) If the answer is "no," because of the wording of the statute, will the answer be the same in cities or towns using radar?

(3) Will it be necessary to show that signs have been properly posted, that the arresting officer was in uniform or displayed his badge, and that

when the officers work in pairs, one had immediately communicated to the other the facts constituting the alleged violation?

(4) Must the officers be examined as to what tests they have made for accuracy of radar devices, and, if so, would such testimony violate the hearsay rule where the officers communicate by radio while making trial runs?

(5) If the case is tried before a judge who has already witnessed a demonstration, is he disqualified for having in effect taken "an unauthorized view"?

The Virginia statute on the use of radar for traffic control is very clear and should provide the answers to most of these issues. All signs indicate that radar is here to stay[26] and that its use will greatly reduce the number of traffic accidents on Virginia's highways.

26. Radar, of course, has been in the courts in other ways than these discussed above, especially in connection with conning. For a discussion of the problems that have arisen in that field see Biesemeier and Bergs, *Some Legal Aspects of Radar Conning*, JAG J. 3 (Dec. 1953).