OVERVIEW

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THE TECHNICAL SCENE AND THE NEW JAVELIN

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Running, Jumping, Throwing. To an outsider or to the casual fan, track and field athletics would seem to be a simple sport of the most basic human physical movements, with competition between athletes and against records, to find out who is best, being the real basis of our sport. It is only when interest in athletics deepens that you begin to understand that in order to master these basic movements and come out best in competition, the athlete must possess complicated skills and knowledge, that rely on science and research as an integral part of training.

It is vital that in the process of finding out who is best, the conditions of competition must be the same for each athlete. What to run on? Where to jump? What to throw? How to measure these efforts for comparison? Each of these questions must be answered by a number of rules and requirements. There are also the coaches, the officials and the administrators. Each of these has a necessary and complicated job to do. They must also be aware of the need for safety, to ensure that athletes are not subjected to unnecessary risks or dangers as they compete. As science and technology advance, as new materials and techniques become available and even as performances improve the situation changes. Rules and requirements must be re-examined and, if necessary, they

must be changed... In brief, the more one knows about athletics the more one realises that on both the performing and technical levels, athletics can be a most complex sport.

The IAAF Technical Committee and its Working Groups have the responsibility of keeping abreast of changes and making sure that the Council and Congress are presented with up to date proposals for rule alterations. Presently there are a number of technical issues facing the Committee which must be considered before drafting new rules. As the Committee members have to deal with many factors and aspects, their work can be a hard, slow, evolutionary process. Even rules that may not actually need to be changed are subject to examination, in order that they might be made more clear, or so that any false interpretations might be eliminated. For example, one area of the Rules that has been targeted for clarification of language and lay-out in the future is Rule 161 and Rule 162 regarding tracks.

The actual technical surface of the tracks also came under discussion, after suggestions that there is a need to control the quality of new tracks being constructed, after several relatively new tracks in different countries and climates have shown major defects. The Stadium Working Group, a subgroup of the Technical Committee, is looking into the feasibility of establishing international scientific standards for the construction of tracks. This could possibly be in conjunction with a recently created Association outside the IAAF (the International Association for Sports Surface Sciences or ISSS) which could then be consulted and be responsible for new construction or policing the new standards.

In the sphere of timekeeping, one of the latest and most intriguing technological developments is the advancement in electronic cameras. It is now possible to have a system of finish judging and timing without film. Instead of negatives and prints, which take time to process, official time keepers would be able to watch a television screen with an image as sharp as a photograph, and stop the action at the moment of the finish. This development will be a major item on the Technical Committee's agenda next year. Any new system would have a trial period, when it would operate side by side with the present system. In addition, before the system could come into general usage, the Committee would have to look into a rewording of Rule 120 so that a continuous film camera was not the exclusive method of recording the finish.

Undoubtedly, the most controversial rule change in athletics for many years has been the introduction of new specifications affecting the flight characteristics of the men's 800gm javelin. The question of revising the specifications first came before the Technical Committee in 1976. One major argument for the change was that the increasing distances being achieved with the aerodynamic javelins were approaching the limits of most stadiums causing concern about safety. In addition, the gliding characteristic of these implements meant they usually landed flat or nearly flat; this made the exact point of landing difficult to determine, and also caused concern and controversy about the validity of the throw. Complaints about unfair judging were far too frequent for a sport which always prides itself on its fairness and objectivity.

Not all were convinced, however, and even before the new javelin became compulsory at the International level, in April of this year, after being approved by the IAAF Congress in 1984, there was much heated debate and resistance to the change. Three arguments seemed to be used in the fight against the introduction of the new implement. First, by moving the center of gravity forward, which removed the glide characteristic of the javelin, it would take away what some felt was the beauty of the event. Good technique, which included getting the right angle of flight, would become less important, thus favoring bigger and stronger throwers. Second, the new specification javelin would make records and comparisons meaningless. Finally as the dangerous distances were being achieved by only the top one or two percent of the throwers it was unnecessarily costly to force every club, school and developing country to abandon their old implements and buy new ones if they did not have throwers of an advanced standard. The ironic question was asked if the reason behind the change was flat throws, why was there no change to the women's javelin?

At the end of the first season of competition with the new javelin the debate has abated but is by no means over. The IAAF Congress in Stuttgart made very slight amendments to the new rule in an effort to tighten up loop holes regarding the point of the javelin and the tapering of the shaft. These amendments made at least three models of javelin illegal. However, Stuttgart was also the site of the European Championships, where the javelin was particularly exciting and close fought. It was in Stuttgart and in other late season meetings around the world that postive answers to the critics of the rule change were given, and the dust began to settle.

From the evidence of the competition in Stuttgart, the change in the flight pattern did not affect the public interest or appreciation of the event. Throws in the 70m to 80m range still seem to go from one end of the stadium to the other. In the qualification round the crowd cheered for throws past the qualifying tape and groaned for throws short of the mark just the same as if the mark was twenty metres further. Marks in the final which approached the best throws to-date in the competition got the same reactions as they would have in any other competition. In fact, now that the javelin sticks on almost every throw the spectators have a more immediate appreciation of the distance of each effort and there is no need to wait to see what the judge thinks of the throw. It was also clear from Stuttgart that if athletes did not get their angle of release right they did not get good throws. Proper angles and, above all, speed of release are still the determining factors in the javelin.

In Stuttgart, the German crowd's enthusiasm, increased no doubt by the win of Tafelmeier, did not seem dampened in any way by the fact that the javelin was describing a different arc or being thrown 10% less than the year before. Indeed, the overall distance thrown and the steeper flight path and entry did not have a negative effect on the enjoyment of the event as had been feared.

It is true that the records of the past are not comparable, but this must be looked at in the proper perspective. Before 1955 javelins were *not* aerodynamic. So in fact, the nature of the implement has been changed fun-

damentally before. In addition to this one must also take into account the incremental changes that took place, as the materials and aerodynamics of the javelin evolved and were improved. In other words the fact that javelin records are not comparable is nothing new. The javelin, like the pole vault, is an event where the raising of standards has, in the past, been at least partly due to the advance of technology.

Perhaps the argument against the new javelin which gives most concern is the cost involved in replacing thousands of javelins for throwers all over the world, who were never going to threaten 100 or 90 or even 80 metres. It was of course for this reason that a long time elapsed between the passing of the rule change and its compulsory introduction at the international level. Many clubs at national level will continue to use old stock javelins, until they become unfit for further use and have to be replaced. While it is obvious that the average club or school thrower was not causing as much of a problem with his distance, there was one unforeseen benefit from the new specifications. Because the new javelins do not glide they are less likely to get blown out of the sector than the old javelins. In fact, in Stuttgart in the qualification and final rounds plus the decathlon javelin there was only one throw out of the sector and that was right on the line. This is a clear advantage from the safety point of view for both athletes and officials, at *all* levels of competition.

The question of the women's javelin is still awaiting the consideration of the Technical Committee. The high financial cost to Federations and Clubs when buying new specification javelins was taken into account when the proposal for the change in the men's implements was considered. Even though the women's javelin has the same flat landing problem as the men's had formerly, nevertheless it is does not pose the same immediate safety problem. Rather than force a double change, that would have been at least twice as expensive, the Committee deferred its decision. Before seriously considering a possible solution to the problem with the women's javelin the Committee members wanted time to see the effects of the new men's models. No change in the 600gm model is foreseen at present.

Of course there will be discussion and debate on this rule change for some while yet, with hints at a change to the women's javelin fuelling the fires once again. Perhaps in four or five years (the expected life span of a javelin) the sting of the heavy cost of replacement in 1986 will be forgotten. Some of the most vociferous critics of the change early on have come to accept the new implement, or if they have not changed their minds totally, they certainly have focused their criticism away from the implement and become less vocal. After all the same top throwers with the old specification implement are still near the top with the new model. They also have the increased peace of mind that some freak wind is not going to take hold of a good throw by an opponent and transform it into a much better throw, thus introducing a certain uncontrolled and unfair element into the competition.

To sum up, the new specification javelin for men is here to stay. Athletes and coaches must now work to understand and master this implement if they wish to compete internationally.

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