

# Scientification of Norwegian football in the 1990s and the emergence of a new regime of knowledge

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## ABSTRACT

The present paper aims to analyse the importance of science in Norwegian men's football's successful period in the 1990s. A main purpose is to examine how the ideas of Egil 'Drillo' Olsen (coach of the men's national team) and Nils Arne Eggen (Rosenborg BK) were part of a general trend of scientification of Norwegian elite sport at the time. By Norwegian standards, both the national team and Rosenborg achieved good results and made their mark internationally. We investigate how Drillo and Eggen not only improved sporting results, but also educated Norwegian football opinion. Their mission was mainly to optimize football performance based on scientific approaches in either football tactics isolated (Drillo) or in combination with more pedagogical and psychological theories of teamwork and interaction (Eggen). We discuss how their modern approach to science at that particular time and that particular stage of football's development, and the regime of knowledge on which they built, created a competitive advantage to the rest of the world. After 2000, the rest of the world closed the gap, and the achievements of Norwegian football declined.

## Background

Norwegians have been crowned as one of the most sport-mad people in the world, in terms of on-site spectating as well as TV viewing. According to an analysis conducted by Kuper and Szymanski, Norway was also the per capita most successful sporting nation in the world.<sup>1</sup> Several factors might explain that Norway performs this well. To be a rich country is one of them, and it helps, too, that most children and youth have access to sporting facilities at a reasonable price, related to a national sport for all-concept. More than 90% are involved in organized sport during childhood.<sup>2</sup> Socialization to sport is thus a strong marker of identity in Norwegian society. There is a strong belief that grassroot sport and elite sport has served as branches of the same tree.<sup>3</sup> Elite athletes were raised in association sport, creating a closeness to 'homegrown' role models, strengthening both the popularity of the particular sport as well as the motivation to enter the same career path.

It is, perhaps, more surprising that Norway is also among the most *football mad* countries in the world, measured by the number of spectators and TV audiences (the latter are excited about both national and international football). The enthusiasm for sport is perhaps best illustrated by the fact that even if football is more popular in Norway than in almost any other country, surveys still show

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that it isn't even their favourite sport to watch, as both cross country skiing and biathlon usually score higher.<sup>4</sup>

Norwegian's love of football is certainly not because they are particularly good at it. While neighbouring countries Sweden and Denmark have regularly performed well at the highest level in men's football, Norwegians have historically found themselves far behind. The national team had a strong spell in the late 1930s, though, with the national team qualifying for the World Cup in France in 1938 (losing marginally to champions Italy in the first round) and a bronze medal at the Olympics in Berlin in 1936.

Later, the national team developed a habit of occasionally beating strong nations, for example Yugoslavia in 1965, France in 1968 and England in 1981, but they never came close to actually qualifying for the World Cup or the EURO between 1938 and 1990. In European club tournaments, results were equally poor, apart from a few heroic defeats, like when Lyn of Oslo marginally lost a two-legged European Cup Winners cup quarter final to Barcelona in 1969, playing both legs away due to wintery conditions in Oslo.

## Setting the scene

Things changed suddenly and drastically in the 1990s. In club football, Rosenborg BK of Trondheim became the dominant national force, and from 1995, they qualified for the Champions League for eight consecutive seasons, beating strong opponents in the process. The national team qualified for two World Cups and one EURO, and was at times ranked 2nd in the FIFA world ranking. Additionally, Norway was arguably the strongest women's football nation in the 1990s, winning the EURO 1993, the World Cup in 1995 and the Olympics in 2000. The argument we develop here is also valid for women's football, but we concentrate on men's football, as the sudden rise to success was much more of a surprise.

The relative success of Rosenborg and the national team took place in a period when Norwegian sport in general improved rapidly. A new model of elite sport – *Olympiatoppen* – was established in 1988 to support athletes and teams which were regarded as potential medallists in international championships and the Olympics.<sup>5</sup> *Olympiatoppen* is a national centre for elite sport and coordinate expert competences in and between different sports, and they established important networks to universities and other institutions within sport research. It is no coincidence that *Olympiatoppen* is located within walking distance from the Norwegian School of Sport Sciences in Oslo, and include regional offices closely related to sport departments at the universities of several larger cities, i.e. Trondheim, Bergen, Tromsø, Stavanger and Kristiansand.

This relation between elite sport, science and research is the point of departure of this paper, which digs into the impact of scientifically based knowledge and formal education in Norwegian football prior to and during the 1990s. Our main hypothesis is that the improving results in men's football was to a large extent the result of the gradual integration of elite sports and science, and that through key actors like coaches Egil 'Drillo' Olsen (national team coach 1990–1998 and 2009–2013) and Nils Arne Eggen (Rosenborg BK for several periods, of which 1988–1997 and 1999–2002 were the most successful) enjoyed success from their innovative capacities, which meant that Norwegian football during these years were founded on research-based fundamentals which gave them the upper tactical and strategical hand.

Needless to say, there is a rich variety of fields of research which can serve as input into science-guided improvement of both sport in general and football more specifically: Sport medicine, sport psychology, nutrition and talent development are all significant areas of research in this respect. Although we will touch upon some of these aspects, we mostly concentrate on research-based knowledge of *football tactics*. We shall pay particular attention to male Norwegian football in the 1990s, because this was a period of sporting success by Norwegian standards. The two above-mentioned coaches were crucial to make it happen. We do not argue that the tactical geniuses of these figures are the sole explanation of the success. But we claim that their focus on research-based

knowledge on football contributed, and not least that it influenced the way in which football was perceived and discussed among spectators, supporters and in the media. Our research question, then, is to examine how the ideas of Egil ‘Drillo’ Olsen (hereafter Drillo) and Eggen were part of a broader trend of scientification of Norwegian elite sport, which international ideas that inspired them, and how they were disseminated in a public discourse on football that was previously alien to the idea of football as science.

Men’s football in Norway in the 1990s may be characterized as based on a particular *regime of knowledge*. The term refers to a particular constellation of *power, knowledge and values*.<sup>6</sup> When identifying the main ideas of Drillo and Eggen, we use the concept to indicate how a specific combination of power, knowledge and values became dominant in Norwegian football discourse.

Football has developed fast since the 1990s. To some, it might seem odd to claim that Drillo and Eggen were innovative by bringing science and scientific knowledge into football. But thirty or forty years ago, many still suggested that football was a sport which it was neither possible nor desirable to make the subject of science.<sup>7</sup>

Hence, we start by illustrating these ‘anti-intellectual’ traditions in football, with particular focus on English and Norwegian football. English football is relevant both because scepticism to the role of science in football was traditionally more widespread than in most other countries (see below), and because English football has been highly influential in Norway.<sup>8</sup> We also offer a brief account of the history of Norwegian football, before turning attention to international developments, curiously not least in England, which highly inspired Drillo and Eggen in forming their philosophies of football. Thereafter, we analyse the ideas of Drillo and Eggen more in detail, before discussing the status of scientification during these years.

## The anti-intellectualism of football

In the final chapter of *Football Nation*, an entertaining journey covering sixty years of post-war British football, Ward and Williams writes:

A lot of what makes English football identifiably English goes back to the rhetoric of amateurism. You don’t prepare too well for football matches because to do so is almost like cheating (...) Eventually, of course, it means that the English may be out-thought or beaten by science. But all that scientific stuff is a bit against the raw spirit of the game as it was first played in England, isn’t it?<sup>9</sup>

The quote captures a vital, but disputed, discourse associated to the English game. Internationally, the history of the game may be seen as a battleground along several dimensions – contrasting national identities, attack versus defence, the working classes versus the middle and upper classes, and not least between what the Brazilians call *futebol’arte* and *futebol de resultados*. This tension between beauty and cynicism is defined by Wilson as constant.<sup>10</sup> For more than 100 years, it has also spurred controversy concerning the importance of knowledge, research and education in improving football tactics.

As the quote above illustrates, the traditional English approach was founded and further developed by practice rather than by theoretical and scientific considerations. Like in most countries, the usual way of recruiting new managers was to look for recently retired, successful, players. As we will return to, England has certainly produced coaches and managers eager to utilize knowledge and research, but at least until the 1990s, they were few and far between, and many of them had to go abroad to get the opportunity to test their ideas in real life. A telling example is the way Hopkins describes the tactical virtues of Liverpool FC during the club’s heydays in the 1970s and 80s: ‘A collective approach (...) founded on self-respect, trust and dedication to the overall cause’, and the ‘rhetoric of “scientific” tactics was derided by Liverpool ...’.<sup>11</sup> Little attention was paid to knowledge in the academic sense.

Such an approach fits well with the diagnosis given by Ward and Williams, but it may not be quintessentially English or British. Football has often been regarded as a too complex game to be put

into a scientific formula, not least when it comes to the tactical mysteries of the game. On the other hand, one might say that football has developed in a dialectical manner, between the urge to gather and spread knowledge and data on the game on the one hand, and scepticism towards 'scientification' on the other hand. Even if the topic is often only implicitly touched upon, it can be identified in several footballing cultures.<sup>12</sup>

This has not least been the case in Norway, a comparatively poor footballing country, but also a country where football is immensely popular, and has been so at least since the 1920s. The reason for introducing the English tradition of 'anti-scientism' or 'anti-intellectualism', is the importance of England in the development in Norwegian football. Olstad and Goksøyr define Norway as probably the most anglophile country in the world when it comes to football.<sup>13</sup>

## A brief history of Norwegian football

Like in many countries, football arrived in Norway in the late 19<sup>th</sup> century, introduced by and adapted from English sailors. The Norwegian Football Association (NFA) was formed in 1902, and British coaches were invited to share their knowledge as early as in 1910.<sup>14</sup> The game soon gained popularity among spectators. It is also worth mentioning that while football in England during these years turned into a mainly working-class game, this was only partly the case in Norway.

The story of the strong Norwegian team in the 1930s is of some interest in this respect. The arguably most important strategist behind the success, Asbjørn Halvorsen, had gained international experience while playing for Hamburger SV in Germany. As the national coach during the 1936 Olympics, he was also inspired by the three-back system developed by Herbert Chapman in England following the adjusted offside rule in 1925.<sup>15</sup> The new 'system football' provoked discussion. Norwegian football would 'drown in systems', it was claimed, and spectators did not attend matches to watch two teams rub shoulders scientifically.<sup>16</sup> The scepticism towards scientific approaches to football was part of a more widespread reluctance, not least in Norway, to rationalize sport as such – there were similar criticisms in debates on skiing at the time. But these issues were perhaps particularly important in football, as many feared that scientification would kill the magic of the game, the creativity of players, and because the game was too complex to be grasped scientifically anyway.

It deserves a mention that Norwegian football was strictly amateur until 1984, and fully professional only from 1991, which means the definite breakthrough of science in football came with professionalism. For example, Norwegians who played professionally abroad, were not eligible for the national team until the late 1960s.

Apart from the 1930s, the idea that tactics was an academic discipline seems to have been remote to most people involved in football. In 1968, however, The Norwegian School of Sport Sciences was established. A major justification for introducing sport as an academic subject was the education of PE teachers, but the very existence of such a school also attracted scholars who were eager to develop a modern and scientifically grounded system for elite sports, including football. Drillo was among the first to register as a student, and for his final exam, he wrote a thesis on how goals in football were scored, based on quantitative video analysis.<sup>17</sup> Although his coaching experiences were more important than his academic achievements when he was appointed as the national coach in the fall of 1990, he would maintain the ideas he identified in this study. Besides working as a coach, Drillo kept a position at the Norwegian School of Sport Science until retirement.

From the Norwegian School of Sport Science, a network developed where coaching education and knowledge of the mysteries of football gradually increased.<sup>18</sup> An important concept was *technical-tactical skills*, the ability of players to make *good* tactical decisions and to *perform* them with perfection. Still, many clubs only slowly and gradually adapted to the more academic approach. Not until the 1990s, it became a requirement to have a coaching certificate at the highest NFA level to function as coach for an elite club.

Still, Norwegian football was gradually developing in the 1970s and 80s, which meant that Drillo and Nils Arne Eggen (the latter also started his coaching career in the early 70s) didn't appear from nothing. The gradual rise of knowledge did, however, not only stem from the Norwegian School of Sport Science, but also from international influences. Of particular significance were Sweden and, perhaps surprisingly, England, earlier presented as a hotspot of the anti-academic approach to football. Before turning to the scientification of Norwegian football in the 1990s, we thus have to take yet another look at a different part of the English experience.

## Scientification in English football

As we mentioned above, English football was remarkably resistant to any form of scientification until the 1990s. The scepticism looked well founded, too. The national team was not performing very well apart from the World Cup won at Wembley in 1966, but English clubs dominated in Europe between 1975 and 1985, when they were banned following the Heysel disaster. Although Scottish, Welsh and Irish players helped to strengthen English teams, they were profoundly British prior to the introduction of Premier League in 1992.

Still, even if managers like Matt Busby, Bill Shankly and Bob Paisley often ridiculed any attempt to intellectualize football, other analysts and coaches took on a more analytic, if not necessarily strictly academic, approach. In the interwar years, Herbert Chapman was an important figure, coaching both Huddersfield and Arsenal to several league championships, based on a thought-through system and style of play.<sup>19</sup> Worth mentioning is also the work of Charles Reep, who served as an advisor to manager Stan Cullis during the great years of Wolverhampton Wanderers in the 1950s. Reep was not an academic by training, but his studies on the way in which goals were scored, using quantitative methods, was clearly data-driven and aligned at using data to improve the tactical approach to games. He concluded that the chance of scoring was dependent on bringing the ball as soon and as often as possible into the penalty area of the opposition. His findings are controversial, but they corresponded well with Drillo's conclusions from the Norwegian School of Sport Science 20 years later.<sup>20</sup>

Still, Chapman and Cullis/Reep seem to have had a limited legacy in sporting terms in English football.<sup>21</sup> The same goes for another and later figure: Charles Hughes. Hughes was the director of management and education in the FA for most of the 1980s, and produced a book called *The Winning Formula*<sup>22</sup> in 1990. Similar to Reep, Hughes advocated the idea of 'direct play'. His conclusions may well be unfounded on closer look,<sup>23</sup> but what interests us here is not the validity of the conclusions, but that his book was rejected by many because it was based on statistics rather than on practice and familiarity with the game from on-field experience. Even though the statistical data may have been flawed, as Wilson<sup>24</sup> has suggested both in the case of Reep and Hughes, it seems that the main criticism was not that he got the numbers wrong, but that you couldn't understand football in the first place while sitting in an office. The journalist David Conn, for example, wrote in his book *The Football Business* that:

Twenty-five years of sitting in darkened rooms at the FA with a notebook had produced statistics (...) Hughes, not getting out enough, had developed this into a theory of 'direct play' (...) after years working quietly away in the bunker (...).<sup>25</sup>

Even if the Hughes' conclusions may be rejected on scientific grounds, the tone of Conn illustrates the anti-academic traditions of English football. Knowledge of football is to be achieved in the field, not in darkened rooms.

English football was known for its direct playing styles, contrary to the 'continental' style of pass and move (although Liverpool FC successfully adopted a version of the latter under Bob Paisley). Hence, one could imagine that Hughes' conclusions reflected what most clubs were already doing, but English football was trying to develop. An important figure in this respect was Allen Wade, Hughes' predecessor, whose work became important to Norwegian football. Two of Wade's early

students at his coaching course were Bob Houghton and Roy Hodgson. They learned from Wade and both favoured the 'pressing game' and zonal marking. When Houghton arrived in Malmö in 1974, only 27 years old (Hodgson was employed as coach by Halmstads BK two years later, in 1976), it spurred success, but also controversy. Their style of play 'stifles initiative, and turns players into robots', some complained.<sup>26</sup> But it is hard to argue with success: Five league titles were won by Malmö FF or Halmstads BK during between 1974 and 1980.<sup>27</sup> It is also worth noting that Houghton and Hodgson left England to coach. While their ideas would probably have been rejected by British top clubs, smaller football nations soon got curious. There was less to lose.

Besides influences from England, Norwegian football has been developed with substantial influences from Sweden. In this case, the English inspirations were mediated through Sweden, as Hodgson and Houghton inspired younger Swedish coaches. In the early 1980s, the Swede Gunder Bengtsson was appointed as coach for Vålerenga of Oslo, a popular, but regularly under-achieving club. He introduced the 'pressing game' at the club and professionalized the training process. It was a huge success in sporting terms, as they won two successive championships during his short spell at the club. But the style of play was regarded inferior in terms of entertainment and willingness to attack. In the media, a distinction between *systemfotboll* and *gladfotboll* (literally: systems football and joyful football) emerged,<sup>28</sup> and apparently the majority of spectators were not willing to accept a win at any cost: The crowds gradually declined at Vålerenga, despite the strong results. However, when Drillo was accepted and even loved a few years later, it served as proof that a more academic approach was finally accepted, although not without controversy.

### The ideas of Drillo and Eggen

Drillo was appointed as caretaker of the national team in October 1990, when Ingvar Stadheim resigned after a string of poor results and heavy criticism in the media. At this point, Drillo had coached several Norwegian clubs, but no top clubs, and had been in charge of the national Under 21-team for six years, starting in 1979. At the time Stadheim resigned, Drillo was in charge of the Olympic national team, aiming to qualify for the 1992 Barcelona Olympics, and which had more talent than most previous generations of Norwegian players. Since Drillo had only coached smaller clubs, mostly from tiers 2 and 3, he was not as well-known as his colleague Nils Arne Eggen, who had been in charge of Rosenborg in several periods, and who in 1988 started a successful run of 15 years at the club (he had a year off in 1998), winning 13 league titles.

In a Norwegian football encyclopaedia, published in 1990, Drillo was described as a 'football theorist',<sup>29</sup> and his preferred style of play was regularly considered as concentrating too much on defensive solidity rather than the attacking style many prefer. This assertion may be contested, but that is beside the point we are making here: Drillo's style of play was less interesting than his analytical, data-driven and research-founded approach. From his position at the Norwegian School of Sport Science, Drillo contributed in educating coaches, but he also continued to do research and to write about football. He was obsessed with data and had a strong belief that facts are irrefutable.

As a person, Eggen was much more outspoken and able to master any social situation, while Drillo often appeared shy. They had opposing habits when watching their teams from the bench: Eggen mostly standing and chain-smoking, shouting instructions to his players throughout the game, while Drillo usually sat quietly, but fully concentrated, to analyse the match.

In terms of strategy and tactical approach, Eggen and Drillo were, however, quite similar. Both favoured quick attacks, in order to hurt the opposition when they were most vulnerable, that is, just after losing the ball (Drillo termed this 'breakdown',<sup>30</sup> one of many concepts that gradually entered the Norwegian football vocabulary). Eggen and Rosenborg based, however, their game on more structured principles of passing and movement in attack, while Drillo was more concerned with breakdown. He held that football was an inaccurate game, which was hard to plan, apart from general principles like playing the ball forward if you can.<sup>31</sup> Partly, the difference was probably due to the fact that Eggen was in charge of his players on a daily basis, week in, week out, while the

national team met only for a week or less a few times a year, meaning that the well-structured and predictable relations between players were harder to achieve.

Eggen was educated as a teacher and was more interested than Drillo in pedagogy and psychology. He was also inspired by the Dutch legend Rinus Michels,<sup>32</sup> the coach of Ajax Amsterdam and the Dutch national team. The distinction between Michels and the modern English tradition established by, among others, Wade, Houghton and Hodgson deserves a further consideration.

Giulianotti relates the tradition from Herbert Chapman to a broader tendency of *Fordism*.<sup>33</sup> Fordism was the mode of production in early industrial society, characterized by mass production of identical products. Through the assembly line, Fordism meant a high degree of differentiation and specialization; each employee was supposed to perform a simple, particular, and predictable task. In much the same way, Chapman's teams were based on a high degree of specialization and role differentiation. The aim was to maximize the 'production' of goals. Players should know their roles and position so well that they could avoid reflecting too much on which choices to make.

The concept most people align to Dutch football of the 1970s is *total football*. The basic idea was that football was all about *space* and how to control it, to make the pitch as big as possible when you were in control of the ball and as small as possible when you were not.<sup>34</sup> This principle was developed, independently of each other, by Valeriy Lobanovskiy in the Soviet Union and by Rinus Michels in Holland. Players were instructed to interchange positions and to cover for each other.

Giulianotti links these principles to *post-Fordism*,<sup>35</sup> a mode of production from late industrial society, characterized by flexible specialization,<sup>36</sup> where production lines are smoothly adjusted to changing patterns of demand. Role patterns became more complex and fluid in total football. While traditions in most styles of play had previously been based on rather fixed positions, total football meant that the strict role differentiation was dismantled, and positions would change continuously. The movement of one player was dependent on the movements of others. This also implied that players had to grasp complex role patterns intellectually, and they would have to influence the content of each role. According to Giulianotti total football forecasted a 'post-modernist skepticism towards the scientific predictability of team coaching and management'.<sup>37</sup>

These modes of thought may shed light on Eggen's philosophy. He synthesized ideas from tactical principles, but he combined them, much more than Drillo, with elements from relationism, philosophy and Csikszentmihalyi's concept of flow experience.<sup>38</sup> Even if Eggen was more influenced than Drillo by Michels, it is important to underline the similarities between the two. A major point is that both managed to influence the way in which spectators, TV viewers and the media understood and had their conversations about football, and the way in which they articulated football. After 1990, the distinction between 'system football' and 'joyful football' disappeared. There were still complaints that Norway played 'boring' football, particularly when they lost, and Rosenborg's attacking style away from home in Europe was regularly judged as naïve in the early 1990s, when they often let in four or five goals, before finally learning the tricks of the trade from around 1995 on. But Eggen and Drillo managed to educate both the public and the media through the introduction of new concepts, modes of thought – and through results.

A main conclusion is, this far, that Eggen and Drillo, although there were several differences between them in terms of international inspirations, were strikingly *modern* in their approach to the game.<sup>39</sup> Their principles took on slightly different forms, but they agreed on the importance of data and shared a strong belief in rationality, knowledge and the importance of a relational focus as prerequisites for progress. In the case of Eggen, this was combined with ideas from psychology and pedagogy (interaction was one of his favourite terms), while Drillo was even more radical in the sense that he, as Fidjestøl puts it, 'made no surrender to authority and established truths, he despised religion, dress codes and disciplinary regulations, he was alien to classical culture and the wisdom of human traditions' (our translation).<sup>40</sup>

## Discussion

Three further features were particularly striking in Eggen's and Drillo's influence on football, which could all be traced back to their scientific approach and which also constituted the particular regime of knowledge – a constellation of power, knowledge and values, see above, that soon became the dominant way of discussing and analysing football in Norway.

First, their approach corresponded to a core norm of science according to sociologist Robert K. Merton, namely 'communism'.<sup>41</sup> As Merton used the term, it is un-political (even if Drillo had a communist background), and refers to the fact that scientific knowledge is regarded as common property: As Merton defined it: 'Secrecy is the antithesis of this norm; full and open communication its enactment'.<sup>42</sup> Most coaches and managers are usually not very explicit about their tactics and strategic principles. This is natural. Football is a strategic game, and all things equal, chances of success improve if you know your opponent's choice of strategy. You can adjust to the knowledge and act upon it. Eggen and Drillo, on the other hand, were not only open in this respect, they actively sought to disseminate their knowledge to the press and the public. The scientific norm of 'communism' became a core value that they both actively supported. Before a decisive world cup qualifier between Norway and England in 1993, Drillo even told the British press how England should play to win. Sporadically, they would arrange for a training session behind closed doors, mostly to practice set pieces, but in general, training sessions were open both to the press and the public.

They were managers on a mission; their aim was to win the public for their approach to football. They both wrote books during their respective reigns,<sup>43</sup> where their basic ideas were presented in public. Drillo's book was solely on football tactics, while Eggen's was about tactics as well as psychology and pedagogy. As mentioned, there were differences between their approaches in the latter sense. Drillo's mission was always purely football related, while Eggen had a wider socio-psychological range of his nation-wide football education. Probably, an important influence of this view on football was related to Eggen's collaboration with Kjell Schou Andreassen.

This leads us to the second feature of Eggen and Drillo's common football base. They saw football from a *collective* or *relational* perspective rather than from an individual. This was a particularly important principle in Eggen's thoughts on football, an integral part of the regime of knowledge that he established in Rosenborg. Eggen and Andreassen were co-coaching the U21 and the senior national team in the 1970s, and from the mid-1980s they were in charge of the Norwegian Olympic team. This cooperation also partly included the anthropologist Cato Wadel, a theoretician who knew nothing about football, but who was highly interested in social relations, leadership and team building. In 1989, Andreassen and Wadel published a book (in Norwegian) on the topic.<sup>44</sup> The fundamental concept in their approach, both to football and working life more generally, was *relational skills* and how to build and develop a team. To Eggen, this concept became a cornerstone in his football philosophy in the 1990s. Relevant football skills cannot be measured individually, they are dependent of the ability of the player to make others perform well, too.

*Structure* was more important than *actors*. It goes without saying that they did not reject the influence of individual skills, but their main aim was to utilize these skills in a collective system. Drillo always advocated the *complementarity* of players as a major principle. To enjoy the advantage of this principle, the team needed players with cutting edge expertise in one particular area. Stig Inge Bjørnebye was not the best full-back in the world and Jostein Flo was certainly not the best right forward, but combined, the precise left foot of Bjørnebye and the areal threat of Flo, who would win duels and head the ball in the path of attacking midfielders, proved to be a dangerous weapon.

Further, the zonal defence, which both Drillo and Eggen advocated strongly, builds on a principle where the players act collectively, and where the choice of one player always influences the positioning and choices of other players. The zonal defence was introduced in Norway by George Curtis,<sup>45</sup> who was in charge of Rosenborg (1969–70) and the Norwegian national team



(1971–74). Drillo has later remembered that he found Curtis' ideas very existing, and Eggen lists Curtis as most influential to his career, alongside Michels.<sup>46</sup>

Of course, it is no surprise to any manager or coach that players act collectively. The difference was, rather, that the authority that Eggen and Drillo enjoyed as results improved, lead even the media to analyse football using their terms and concepts. Gradually, the media's analyses of games were heavily influenced by the structural and collective understanding of football, too. At the end of Drillo's first reign as national coach, the main newspapers published match analyses from Norway's games which described the style of play of the teams more than the quality of each player. Both *VG* and *Dagbladet*, leading national sports newspapers at the time, employed students of Drillo's school from the Norwegian School of Sport Science to conduct match analyses from the national team's games, and present them in next day's paper. Here, readers could enjoy, for example, the proportion of long versus short passes for each team, the proportion of passes going forward, backward or sideways, whether scoring chances were the result of breakdown, long attacks or set pieces, etc.<sup>47</sup> Drillo himself launched the term 'scoring opportunities' to judge whether a result was deserved or a consequence of luck, an early and simplified version of what is today known as expected goals.<sup>48</sup> As the media is most interested in the final result, Drillo often used this concept to educate both journalists and the public. After Norway disappointingly only drew 1–1 with Finland in a World Cup qualifier in 1997, he pointed out that Norway had created nine scoring opportunities, while Finland only created two. Later the same year, Norway won the second game against the Finns in Helsinki by 4–0. The media cheered the team, while Drillo stressed that the 1-1-draw was in fact a better performance: In Helsinki, Norway created only eight scoring opportunities, while Finland had six.<sup>49</sup>

This brings us to the third feature of Drillo's and Eggen's modern football project. Drillo in particular, was primarily interested in the aspects of the game that could be grasped quantitatively, or by numbers. His master thesis on goal scoring was one example, another was his collaborating thoughts with Charles Reep. Drillo and Reep met for the first time at a congress in 1987 and became friends on a professional and personal level.<sup>50</sup> Another interesting example was related to another 'innovation' in the 1990s, the FIFA ranking. Drillo was probably the only coach who knew how this ranking functioned, due to a student in mathematics who had spent time trying to solve FIFA's model. Based on this student's calculation, Drillo and the Norwegian FA could act strategically in choosing opponents, to maximize credits in the ranking system. The purpose was to achieve as favourable draws as possible in the qualification groups for EUROs and the World Cups.<sup>51</sup>

As a result of these three elements, Archetti's expression that Drillo's scientific analyses appeared to be so good that they sometimes made reality become secondary,<sup>52</sup> then gives even more meaning now 20 years later. To public opinion, his fascination for numbers, facts and statistics was both charming and perhaps a bit worrying. Drillo was sceptical of concepts that are hard to measure. For instance, he said that 'self-confidence' is a blurry term, because it is not clear what it consists of and how it is measured.<sup>53</sup>

Summing up these three features of the scientification of Norwegian football, which constitute important elements in a particular regime of knowledge, it seems reasonable to suggest that they contributed in equipping Norwegian football with a competitive advantage. Using data, innovative tactics and anchored in a research-based top sport model, they were able to out-perform teams that appeared stronger on paper. Internationally, they achieved better results than you would guess, considering the skills and status of each individual player. So then, what was the secret?

We are not claiming that they had somehow found the winning formula, which enabled them to out-smart the best teams in the world. Rosenborg never made it beyond the quarter-finals of the Champions League, and the national team only advanced from the group stage once in three championships. But they managed to create relative success in a sport where Norway had previously always been an under-achiever.

Norwegian success was, however, rather short-lived. Drillo retired in 1998, and his successor Nils Johan Semb managed to qualify Norway to the EURO2000. Subsequently, however, results declined

rapidly, both under him and later coaches. Drillo returned in 2009, and despite improving considerably, the previous magic did not appear. In the case of Rosenborg, Nils Arne Eggen retired after the 2002 season. The same year, they qualified for the Champions League for the 8th consecutive year, but they won the national league only marginally during his last two campaigns in charge. Rosenborg qualified for the CL again in 2007, but it seemed clear that the gap between the top European teams and Rosenborg had increased significantly.

Norway's competitive advantage was specific to the 1990s.<sup>54</sup> During the reigns of Drillo and Eggen, it enabled Norway and Rosenborg to develop a scientifically grounded style of play at a time when these developments were in their first beginning in most other countries. In the 1990s, several teams still played man-marking and with a sweeper. The sweeper system was highly vulnerable to the rapid breakthrough balls and movements from midfielders that characterized both Norway and Rosenborg. Over time, the style of Norway was analysed and counter-strategies adapted, so that important reasons for success were no longer something used by Norway exclusively. Wilson highlights *evolvment* as a distinguished feature of managers who have enjoyed success over a prolonged period: '... what they all shared was the clarity of vision to successfully recognize when the time was right to abandon a winning formula and the courage to implement a new one'.<sup>55</sup>

Olympiatoppen probably contributed to the success in a more general sense, by establishing the idea of the 24 hour-athlete as a common norm for elite sports. The concept does, of course, not mean that athletes should think and breathe sport throughout day and night, but that the organization of everyday life is part of a larger plan to maximize sporting performance. Olympiatoppen encompassed all elite sport (although football was among the more reluctant to be integrated), which meant that different learning environments and organizations developed their ideas and their philosophies based on similar modes of thought, a phenomenon that fits well with DiMaggio and Powells theory of isomorphism.<sup>56</sup> Such processes of homogenization are a regular feature of professionalization.

Still, the links to Olympiatoppen had at least two important implications. First, the success of the national team and Rosenborg meant that several players moved to more prestigious leagues, and to the newly established English Premier League in particular. Here, most of them were not admired for their individual skills on the ball, but for their professionalism. Many performed well because they embodied the attitudes of a true professional. In the early 1990s, Arsene Wenger had still not arrived at Arsenal, and players like Paul Gascoigne, Tony Adams and many more represented a football culture which did not bear much similarities to the 24 hour-athlete.

Second, when scientification processes finally reached most other countries, it is tempting to suggest that Norway lost their competitive advantage. The money pouring into football from the 1990s on, and the financial importance of winning, gradually forced elite clubs to make use of the best knowledge there was. While Drillo was an innovator in introducing video analysis already in the 1970s, more or less all clubs would use such technologies – and more complex technologies – by 2000.

## Concluding remarks

The scientification of football is the process by which the systematic collection and analysis of data, combined with conceptual frameworks that allow for research-based knowledge, steers the way players train, organize and play. In this paper, we have concentrated on the ideas of Drillo and Eggen, as they were the most influential and successful among the Norwegian who developed and adopted the ideas. International influences were important to both of them, but gradually, they developed them into their own principles, which in turn influenced the way Norwegians experienced, interpreted and talked about football. We have showed how these developments in football coincided with the establishment of a successful elite sport model in Norway, which probably helped to create a context by which their ideas were allowed to blossom.

The successes of the 1990s may look even stranger in retrospect, as both Norwegian elite clubs and, in particular, the national team yet again find themselves way behind the top European level in sporting terms. The most important explanation is probably that while the Norwegian scientificisation of football was innovative in the 1990s, others gradually adapted to the trend. From then on, the comparative advantage was lost. Today, international football is very much the object of scientificisation.

## Notes

1. Kuper and Szymanski, *Soccernomics*.
2. Bakken, *Idrettens posisjon i ungdomstida*.
3. Peterson, 'The Professionalization of Sport in the Scandinavian Countries'.
4. Kuper and Szymanski, *Soccernomics*, 200.
5. Augestad, Bergsgard and Hansen, 'The Institutionalization of an Elite Sport Organization in Norway'.
6. Slagstad, *De nasjonale strateger*.
7. Goksøy and Olstad, *Fotball! Norges fotballforbund 100 år*, 258.
8. Goksøy and Hognestad, 'No Longer Worlds Apart?'.
9. Ward and Williams, *Football Nation. Sixty Years of the Beautiful Game*, 384.
10. Wilson, *Inverting the Pyramid*, 4.
11. Hopkins, *Passing Rhythms*, 79
12. See, for example, Wilson, *Inverting the Pyramid*; Winner, *Brilliant Orange*; Hesse-Lichtenberger, *Tor! The Story of German Football*; Foot, *Calcio. A History of Italian Football*.
13. Olstad and Goksøy, 'Revolution and Resistance'.
14. Goksøy and Olstad, *Fotball! Norges fotballforbund 100 år*, 177.
15. Wilson, *Inverting the Pyramid*, 48–9
16. Goksøy and Olstad, *Fotball! Norges fotballforbund 100 år*, 242.
17. Olsen, *Scoringer i fotball*.
18. Goksøy and Olstad, *Fotball! Norges fotballforbund 100 år*, 186–7.
19. Wilson, *Inverting the Pyramid*, chapter 3.
20. Larsen, 'Charles Reep'.
21. Say, 'Herbert Chapman'.
22. Hughes, *The Winning Formula*.
23. Cf. Wilson, *Inverting the Pyramid*, 293–7.
24. Wilson, *Inverting the Pyramid*.
25. Conn, *The Football Business*, 142–3.
26. Wilson, *Inverting the Pyramid*, 298.
27. Peterson, 'Split Visions'.
28. Andersson and Radmann, 'Everything in Moderation'.
29. Nakkim, *Stang inn! Drillo og landslaget*,
30. Olsen, Semb and Larsen, *Effektiv fotball*,
31. Larsen, 'Charles Reep'.
32. Eggen, *Godfoten*,
33. Giulianotti, *Football. A Sociology of the Global Game*, 30.
34. Wilson, *Inverting the Pyramid*, 218.
35. Giulianotti, *Football. A Sociology of the Global Game*, 133.
36. Piore and Sabel, *The Second Industrial Divide*.
37. Giulianotti, *Football. A Sociology of the Global Game*, 135.
38. See, for example, Steiro and Saksvik, 'Learning from Sports'.
39. Slagstad, (*Sporten*). *En idéhistorisk studie*, 708–18.
40. Fidjestøl, *Mine kamper. Biografien om Drillo*, 145–6.
41. Merton, 'Science and Democratic Social Structure'.
42. *Ibid.*, 611.
43. For example, Eggen, *Godfoten*, and, Olsen, Semb and Larsen, *Effektiv fotball*.
44. Andreassen and Wadel, *Ledelse, teamarbeid og teamutvikling i fotball og arbeidsliv*.
45. Fidjestøl, *Mine kamper. Biografien om Drillo*, 109
46. Eggen, *Godfoten*.
47. Hjelseth, 'Etter Drillo?'.
48. Hjelseth, *Ibid.*
49. Holm et.al., *Eventyret Drillos*, 78

50. Larsen, 'Charles Reep'.
51. Fidjestøl, *Mine kamper. Biografien om Drillo*, 274–7.
52. Archetti, 'Opprinnelse og tradisjoner', 40.
53. Holm et al., *Eventyret Drillos*, 105.
54. Cf. Telseth and Halldorsson, 'The Success Culture of Nordic Football'.
55. Wilson, *Inverting the Pyramid*, 3.
56. DiMaggio and Powell, 'The Iron Cage Revisited'.

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