

## The Impact of a Decade of FIG Innovations on Performances at the 2002 World Championships in Debrecen and World Cup Final in Stuttgart



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The end of 2002 saw the hosting of two extraordinary gymnastics events within a week of each other – the Individual Apparatus World Championships in Debrecen and the World Cup Final in Stuttgart. I use the word extraordinary not only because of the quality of the performances and of the organization, but also because these events were the culmination of a bewildering and exciting array of developments in gymnastics over the preceding decade. Both were also the third and the last of their kind, but more about that later.

By fits and starts, sometimes with positive results and sometimes with negative ones, the FIG has, especially over the past decade, gradually introduced significant innovations – innovations that have changed our sport forever. Among the most controversial and at the same time most influential of these innovations have been the following:

**TABLE 1**

1989	Stuttgart	Introduction of “new life” finals
1990	Brussels	Six judges on the “counting” panel instead of only four
1991	Indianapolis	First use of a formal judges’ control system
1992	Paris	First “specialist” World Championships
1992	Barcelona	IOC “amateur” rules became relaxed with the appearance of basketball’s Dream Team and opened the way for gymnastics prize money.
1993	Birmingham	First mixed “all around & specialist” World Championships Introduction of large amounts of bonus for difficulty
1997	Lausanne	First complete World Championships without compulsory exercises Team format and size changed from the traditional 7-6-5 to 6-5-4 Judges duties distributed between A- and B-juries Introduction of and display of “bonus based” Start Value B-jury submits deductions rather than scores
1998	Sabae	First World Cup Final to conclude a multi-competition World Cup series
2000	Sidney	First use of “Wild Card” gymnasts from the Continental Unions
2001	Ghent	No “one-touch” warm-up for Team and Apparatus Finals Team size for Team Finals 6-3-3 Introduction of Vault Table

The timing of the first of these innovations corresponded almost exactly with the well known but still seemingly unbelievable and rapid changes in Eastern Europe and China. Thus their impact and those of subsequent innovations have to be appreciated in light of the rapid and extensive world-wide distribution of gymnastics and coaching talent from those countries. That talent helped to greatly amplify the impact of the FIG innovations.

Taken together, the most positive impact of the changes has been to allow countries with small populations, small budgets, and small possibilities to compete successfully at the world level. First, the “team order” advantages were removed and the judges’ panels became larger with wider representation that made them harder to influence. Then, increasingly, the single apparatus specialist became included and encouraged, the time consuming compulsories were removed, prize money became available at most competitions and more prize money competitions were added with the World Cup series. These factors and others increased world wide participation and permitted gymnasts to prolong their careers by as much as a decade and allowed them to earn a

living – to lead a more normal life - through a combination of reduced training demands and increased prize money.

Considering these factors and the “specialist” nature of the Debrecen and the Stuttgart competitions, one would expect to see the best gymnastics performances in history on each apparatus. And, in consequence, one would expect to see near perfect scores. One would also expect to see an increase in participation and a world wide distribution of medals. The overall impression was that those expectations were indeed met in the case of men’s gymnastics, but conspicuously less so for women.

### **Impression of men’s vs. women’s performances**

It is certainly true that many of the best gymnastics performances ever seen were shown for both men and women, but the prevailing impression was that overall the men’s performances were exceptional; the women’s only sporadically so. A number of factors may have contributed to this scenario. It has been evident for the entire last decade that men have increasingly embraced “specialization” whereas women, possibly due to youth and greater control by their coaches, have been reluctant to do so. This has permitted already super male performers to extend their successful world level participation by as much as ten years. Many of the men are now competing successfully into their thirties. And indeed the most memorable women’s performances were also by the oldest – Chousovitina and Magana (who both competed in 1991!) and Khorkina.

The prolonged careers and the more selective number of male gymnasts in Debrecen reduced the common criticism of “formula or monotonous gymnastics” demanded by the “hunt” for bonus points. The very best were able to transcend this problem which will certainly be much more evident in Anaheim when hundreds of lesser gymnasts compete on each apparatus. The younger female gymnasts and the more stringent Code requirements did not permit any but a very very few to transcend “formula gymnastics”. A World Championships needs to see something new. The men had it in abundance; the women almost not at all. It is also likely that the greater post-Olympic turn-over rate for girls has a corresponding impact in that the new generation has not yet realized its potential and therefore stayed away from Debrecen.

The well intentioned “16 years of age” rule may have had unintended negative consequences for women’s gymnastics. It has demonstratively not reduced intense high level work and competition for young girls who are allowed to compete everywhere except at major FIG competitions. But it has reduced the number of gymnasts at World Championships who are capable of doing the acrobatized form of gymnastics that is rewarded by today’s rules and that is most suited to pre-pubescent girls. The rules do not specifically reward those attributes that a more mature woman can display. Moreover, it has caused the abandonment of gymnastics by many future stars who look ahead and see that they will miss the next Olympics (or the one after that) because of an unlucky birthday. Nadia stormed onto the world stage at age 12 and was Olympic Champion at 13. Today she would have to be 16. If 16 really is such an inviolable cut-off age, then why can girls who turn 15 compete in 2003 but not in 2004? Of course, the political answers are well known, but the implementation of this “16 years of age” rule seems to have had dramatically negative effects.

The new vault table has been an exciting innovation but its advantages have for now most massively accrued to men’s gymnastics. On the whole, men perform one salto and/or one twist more than women. I started to think about the biomechanics involved and realized that by their greater body mass and slightly greater running speed, men contact the vaulting board at about double the kinetic energy of women. That alone accounts for the difference but the explanation does not change the fact that men’s vault has become amazingly more exciting to watch. Similar analyses may apply for floor exercise and horizontal bar.

### The difference in scores

I heard a frustrated women's coach state that the scores reflect the real level of gymnastics only in the imagination of judges. Be that as it may, it is evident that scores have a dramatic influence on how a performance is perceived and that is why many have argued so strongly for the retention of the final score of 10. However, the tension between the wish for a 10 and the need to prevent too many (or any) from attaining it remains a fundamental challenge for the FIG. Efforts have been made to stop the 10 (last awarded in 1989 for men and 1992 for women), yet to permit super gymnasts to approach it. The men's rules seem to have successfully achieved this balance while the women's fell far short as is evident in the Start Value analysis presented below.

**TABLE 2**

<b>Incidence of Awarded High Start Values in Debrecen During Qualification</b>				
	<b>10</b>	<b>9.9</b>	<b>9.8</b>	<b>9.7</b>
<b>Men</b>				
Floor Exercise	19	6	5	7
Pommel Horse	27	4	5	2
Rings	28	2	4	2
Vault (2 vaults)	21	11	16	21
Parallel Bars	17	4	4	3
Horizontal Bar	17	6	5	2
<b>Women</b>				
Vault (2 vaults)	0	1	10	24
Uneven Bars	6	4	1	3
Balance Beam	4	1	2	4
Floor Exercise	1	2	7	3

However, it is too early for the men to be satisfied. The large number of maximum Start Values for men (as high as 10.6 if the rules permitted it) almost two years before the Olympics portend of a looming crisis in 2003 and 2004 when there will clearly not be sufficient evaluation tools available to separate gymnasts.

TABLE 3

Range of Qualification Scores & Deductions for the Best 16 in Debrecen					
	Start Value Range	Score Range	Score Difference	Deduction Range	Deduction Difference
<b>Men</b>					
Floor Exercises	9.8 - 10	9.375 – 9.712	0.337	0.250 – 0.613	0.363
Pommel Horse	10 - 10	9.475 – 9.775	0.300	0.225 – 0.525	0.300
Rings	10 - 10	9.487 – 9.700	0.213	0.300 – 0.513	0.213
Vault (average of 2 vaults)	9.7 - 10	9.212 – 9.631	0.419	0.294 – 0.538	0.244
Parallel Bars	9.8 - 10	9.250 – 9.700	0.450	0.300 – 0.750	0.450
Horizontal Bar	9.9 - 10	9.425 – 9.637	0.212	0.363 – 0.575	0.212
<b>Women</b>					
Vault (average of 2 vaults)	9.6 - 9.8	9.043 – 9.387	0.344	0.413 – 0.657	0.244
Uneven Bars	9.4 - 10	8.625 – 9.737	1.112	0.263 – 1.075	0.812
Balance Beam	9.4 - 10	8.550 – 9.625	1.075	0.375 – 0.950	0.575
Floor Exercise	9.6 - 10	8.887 – 9.387	0.500	0.413 – 0.788	0.375

Even though the significantly higher Start Values and Scores for men gave an overall feeling of satisfaction, the lack of differentiation among gymnasts was already problematic. However, outwardly to the public and media, this problem was not as evident as the preponderance of low scores for women. But it is not yet appropriate for either men or women to be complacent or to celebrate. A look at the deductions rather than the scores reveals that the B-jury in both disciplines does not or can not much separate the best 16. (The high range for uneven bars is due to an exercise with a fall.) It simply is not sufficient to fit 16 gymnasts within as little as 0.212 points almost two years before the Olympic Games.

It seems that the women differentiate slightly more. This could be due to their more vigorous judges' control or to the slightly lower level quality of gymnasts, but that is not the whole story. The analysis suggests that B-juries for men and women regularly separate the best 16 by about 0.2 – 0.4. That reality has not changed in 50 years and that is why I have written in the past that the execution rules of 50 years ago could be used today without problems. The women are probably on the right track by allowing the difficulty to separate gymnasts by an additional up to 0.6 but that has led to unpalatable low Final Scores and an overall outward impression of lower level performances – even of bad gymnastics - although that can clearly not be the case at a World Championship or World Cup.

There is some indication of B-jury anomalies that may be due to true differences of opinion, to judging errors, to manipulation, or to lack of clarity in the rules – and this is certainly independent of stricter judges control mechanisms.

TABLE 4

<b>Maximum Differences of Deductions Taken for the Same Exercise for Best 16 During Qualification</b>	
<b>Men</b>	
Floor Exercise	0.55
Pommel Horse	0.40
Rings	0.40
Vault	0.45
Parallel Bars	0.55
Horizontal Bar	0.35
<b>Women</b>	
Vault	0.35
Uneven Bars	0.90
Balance Beam	0.70
Floor Exercise	0.55

The largest such anomalies occurred on uneven bars and balance beam suggesting that some work is necessary to clarify the rules and interpretations on those apparatus so that all judges understand them equally. It is worthwhile also to consider if a difference of judges' opinion of 0.4 - 0.5 is acceptable for the best 16 performances on any apparatus. We do drop the high and low scores, but what degree of discrepancy for the extreme scores can be considered normal?

The challenge for the remainder of this cycle will be to strictly enforce those evaluation tools that are available. The evidence of Debrecen and Stuttgart suggests that this enforcement task will not be easy. Additionally, especially on the women's side where coaches seem to have given up on questioning the A-score, but also for men, the potential for excessive discretionary A-jury power needs careful scrutiny. There is a tendency to be smugly satisfied with the "theoretical objectivity" of the A-score" when in fact it can be, and often is, much more subjective than the B-score.

Another observation: It seems to me that the requirement for the B-jury to submit deductions rather than scores also makes it uncomfortable – perhaps almost impossible – to reward perfection. My experience suggests that it is more comfortable for a judge to enter a score of 10 than to enter a 0-deduction. Perhaps that explains why, in my opinion, the only deserved 10 in Debrecen – for Khorkina's virtuous, original, and magical Uneven Bar performance – was not so rewarded.

### **Distribution of medals**

The factors that I discussed at the beginning regarding wider distribution of success and the embracing of specialists is best reflected in the distribution of medals. Notwithstanding that men have two extra apparatus; the past decade has shown repeatedly that more nations have a chance to win medals in men's gymnastics than in women's.

TABLE 5

Distribution of Medals at FIG Competitions			
Date & Location	Type of Championship	Number of countries that won medals	
		Men	Women
1992 - Paris	Apparatus World Championships	9	5
1992 - Barcelona	Olympic Games	7	5
1993 - Birmingham	AA & Apparatus World Championships	12	6
1994 - Brisbane	AA & Apparatus World Championships	14	5
1994 - Dortmund	Team World Championships	3	3
1995 - Sabae	Complete World Championships	10	6
1996 - San Juan	Apparatus World Championships	10	8
1996 - Atlanta	Olympic Games	13	5
1997 - Lausanne	Complete World Championships	15	3
1998 - Sabae	World Cup Final	8	4
1999 - Tianjin	Complete World Championships	12	4
2000 - Sydney	Olympic Games	12	3
2000 - Glasgow	World Cup Final	12	5
2001 - Ghent	Complete World Championships	12	7
2002 - Debrecen	Apparatus World Championships	11	7
2002 - Stuttgart	World Cup Final	11	6
Number of different countries that have won medals since 1992		<b>30</b>	<b>16</b>

### Participation numbers

Some of the foregoing discussion also helps explain the lower participation numbers for women than for men; and somewhat alarmingly, the women's numbers seem to be declining. High numbers of women seem to participate only for Olympic qualification.

TABLE 6

Comparative Participation Numbers for Similar World Championships				
	Men's Teams	Women's Teams	Men	Women
<b>Apparatus World Championships</b>				
1992 - Paris	-	-	128	126
1996 - San Juan	-	-	157	96
2002 - Debrecen	-	-	198	91
<b>All Around &amp; Apparatus World Championships</b>				
1993 - Birmingham	-	-	123	97
1994 - Brisbane	-	-	163	88
<b>Complete World Championships</b>				
1995 - Sabae	24	26	214	195
1997 - Lausanne	35	19	280	149
1999 - Tianjin	43	39	293	260
2001 - Ghent	40	25	309	172

I began this article with the statement that FIG innovations and global politics could in advance of Debrecen and Stuttgart expect us to see the best ever performances and near perfect scores as well as larger participation numbers and wider distribution of medals. My analysis suggests that it may be necessary for the authorities to analyze carefully why there is such a large difference between men's and women's gymnastics on these indicators of a healthy world wide sport. I believe that I have touched on some of the factors but they are far from the complete answer.

I believe that the healthiest FIG events for maintaining our gymnasts in the sport, for an exciting competition, for fun and comradeship are the Individual Apparatus World Championships and the World Cup Series. Unfortunately both the Debrecen and the Stuttgart event were the last of their kind. I personally lament that new decisions have been made. Future post-Olympic years will see a combined All Around and Individual Apparatus World Championships of the type that was so organizationally confusing in Birmingham and Brisbane. The current World Cup Series has a point system that minimizes the value of participating in the qualification competitions and the future World Cup will no longer be a series; rather it will become a Continental qualification that leads to a World Cup Final.

Perhaps – and I certainly hope so - the new decisions will take gymnastics further but I sense that we have fixed something that was not broken. For me these were the best events that FIG had. I have enjoyed the three Individual Apparatus World Championships more than any other FIG event and I have found the World Cup Series, fraught with unresolved problems as it was, to have been the most positive development ever for our gymnasts. My personal wish is for more competitions like Debrecen and Stuttgart.

The FIG is continuing to experiment and will continue to discover innovations that will take gymnastics to the next level. It is important that, in the process, we assure wider and safer and more lucrative participation for gymnasts and cater for more exciting and media friendly rules and competition formats. We must also “open” gymnastics for the gymnasts. I sense that our rules prescribe and proscribe much too much. Our rules must be of the minimum complexity that we can responsibly accept. Only then can we consistently expect and enforce their fair application.

By the evidence of Debrecen and Stuttgart the FIG, despite many problems and strong opposition to each innovation, has steered a pretty good course over the past dozen years or so. I am confident that that momentum – that trend – will continue. It is my hope that the ideas and analyses presented in this article may motivate additional scrutiny, reflection, and discussion so as to lead to many more progressive innovations in the coming years.

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