To the readers of *www.row2k.com*

With **Harvard-Yale** and the **IRA** coming up soon on the United States regatta calendar, I thought it would be interesting to go back and explore the origins of these two venerable institutions. This excerpt begins with the two great innovator coaches in American collegiate rowing at the turn of the 20th Century and ends with the first American winner of the Grand Challenge Cup at Henley, the Harvard *Jayvee!*

The following .pdf is in the format intended for the final printed book. The color you see will be duplicated in the limited collector edition. All these excerpts are from the third of the four volumes.

Incidentally, all the excerpts that have appeared on row2k during the last six months have since been revised as we work toward publication. The most recent drafts are now posted in the row2k archives.

The **limited collector edition** of my new book, ***The Sport of Rowing***, from whence have come all these excerpts, sold out in April in about a week. Thanks so much to all of you who have showed such faith in the book.

The paperback **standard edition** remains on sale at:

www.row2k.com/rowingmall/

This edition has all the same content as the collector edition. The illustrations are in black and white, and the price is much more affordable.

Both editions will be published in October.

And remember, you can always email me anytime at:

pmallory@rowingevolution.com

Many thanks.

36. 1897-1900 Poughkeepsie Regattas

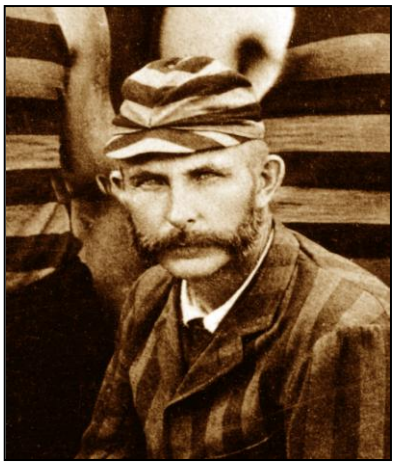
Ellis Ward – Classical Technique in America

Ellis Ward

Six days after defeating Harvard and Yale, Cornell went into their second Poughkeepsie race of 1897, the **Intercollegiate Rowing Association** championship.

Crowther: "Cornell won from Columbia, and Pennsylvania swamped,[1358] so that a real test of style was impossible.

"The swamping of Pennsylvania removed the only 'long-slide' eight from the race."[1359] That eight was coached by another former professional oarsman, **Ellis Ward** (1846-1922), bow man of the **Ward Brothers** four,[1360] who was back at Penn that year after coaching there off and on since 1879.



University of Pennsylvania Intercollegiate Athletics

Ellis Ward

Famous in the early days of professional rowing, the Ward Brothers' "appearance when in motion was ragged and inharmonious. . . . they neglected the aesthetic and graceful side of the matter, and devoted themselves exclusively to rowing each one with all his might."[1361]

"The species of rowing crews of which the famous Ward four is the most conspicuous example of success depend for their triumphs on a lifetime spent in following the water and rowing together."[1362]

"The Ward brothers bobbed every which way, it is true, but by long practice the vicious bobbing of one was counteracted by the vicious bobbing of the other. One yawed over the side this way, but another yawed over the other."[1363]

The Ward Brothers had won the great International Regatta on Lake Saratoga in 1871 over the Biglins[1364] and two British crews.[1365]

Future journalist **Negley Farson** described rowing for Ellis Ward in his auto-biography, ***The Way of a Transgressor***: "Old Coach Ward had the reputation of

[1358] Penn had also swamped in the 1895 IRA, suggesting the design of their custom boats built for their coach was prone to problems in the rough waters of the Hudson.
[1359] Crowther, p. 122
[1360] See Chapter 10.

[1361] Hawthorne, pp. 180-1
[1362] Eckford, p. 190
[1363] Ibid, p. 191
[1364] There were four Biglin brothers, **James** and **Philip** as well as **John** and **Barney** Biglin, the subjects of Thomas Eakins paintings. Per Funeral of John A. Biglin, *The New York Times*, April 23, 1886
[1365] Than V. Rank, Why Pennsylvania Wins, *Leslie's Weekly*, July 20, 1899, p. 50

Author

Tracks ending at **diagonal shoulder braces**.

being the most man-killing rowing coach in the United States. He whipped his crews along like dogs. When Coach Ward used to pour alum over our hands to harden them, I nearly cried with pain.

"He was a man with one idea, and that was maniacal – to beat the crews of Courtney of Cornell; an ambition that nearly killed all of us, for Coach Courtney of Cornell was probably the greatest rowing coach that this world will ever see. A Courtney Eight rowed like one man."[1366]

The Ward Approach

As a young man, Ellis Ward had studied carefully the rowing technique of Ned Hanlan and was the one who had characterized Ned's boat as "haunted" after Hanlan had hung with their four in a practice run on the Schuylkill before the International Exposition in 1876.[1367]

Two decades later, the impression Hanlan had left on Ward was obvious in the way that Pennsylvania rowed.

Ward varied from the Courtney model by coaching a pullthrough that relied on the Hanlan pendulum body swing.[1368] Penn rowed a concurrent *Schubschlag* pull-through.

He combined that with Hanlanesque long slides. The photo of the Penn Crew at Henley in Chapter 37 reveals that Ward had ordered special tracks in their paper shell.[1369]

Ward: "I have each boat constructed with an eye on every detail, and I make the oars myself."[1370]

Shells of the era prior to composite materials had a metal outrigger strut at each seat perpendicular to the keel and extending out from the gunwale directly to the swivel oarlock pin. At this strut's attachment point, the gunwale was strengthened with metal-reinforced wooden shoulder braces extending diagonally down to the keelson. Similar braces would extend out to the opposite gunwale to give the shell interior symmetrical integrity and to provide support structure for the stern end of the seat deck.

The V-shaped intrusion of the two diagonal shoulder braces (see illustration) into the cockpit formed a natural barrier to the seat tracks. Accordingly, the general practice was for the seats to slide toward the stern only down to the shoulder braces, in other words to the point more or less perpendicular to the oarlock pin.

[1366] Farson, pp. 45-6

[1367] Kelley, p. 33. See Chapter 10.

[1368] Crowther, p. 92

[1369] Penn's shells had keels, gunwales, ribs, braces and seat decks constructed of wood, but the hulls were made of laminated paper soaked in varnish. They were manufactured by Waters, Balch & Company of Troy, New York.

[1370] Qtd. by Rank, op.cit., p. 50

Ellis Ward had his tracks extended beyond this further toward the stern. Making use of such tracks is called rowing "through the pin," and it allowed the Penn crew to compress their legs so far that the Henley photo shows their shins pushed well past vertical.

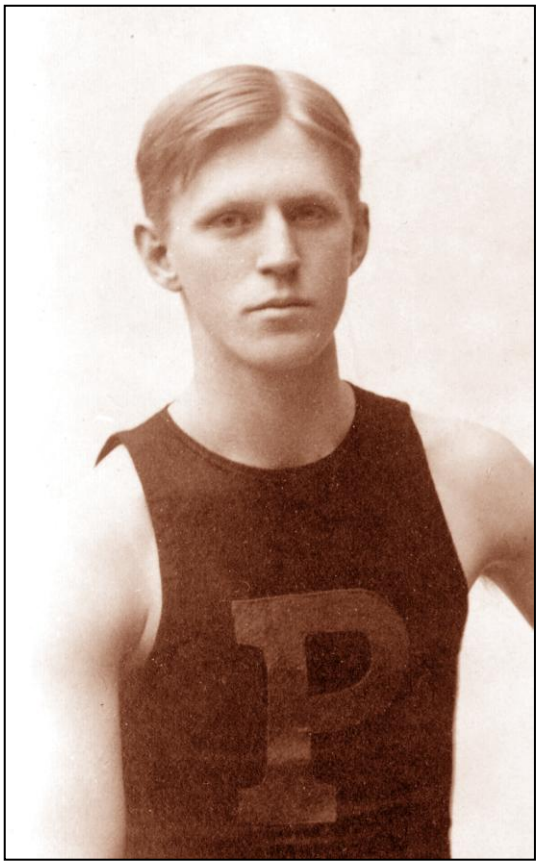
Ellis Ward's brother, **Al Ward**, would build eights with similar extended tracks for Annapolis coach **Richard Glendon** during the first decades of the 20th Century.[1371] During the 1950s, Karl Adam, a coach in West Germany would reintroduce this innovation.[1372]

Technique

In his youth, historian **Samuel Crowther, Jr.** (1880-1947) was a member of the Penn Varsity Crew from 1899 to 1901. He considered Ellis Ward's approach a new **American Technique**: "The reach is with the elbows at the knees, which are well apart. The catch is made firmly, but *after* the oar is in the water [backsplash entry]. The oar does not strike the water with force as in many of the harder catches of old [an undisguised criticism of Charles Courtney's Extended Body Swing Style of the time[1373]].

"As the body rises, the knees come together, and when the body reaches the perpendicular, the legs are slammed down, and by the time the slide has reached the limit, the body has swung just beyond the perpendicular.

"The arms must be kept straight and merely act as lines connecting the oar with the body until the finish, when they are to be used to bring the oar to the body, and the oar is brought in sharply, but without apparent effort – no jerk. [i.e. no ferryman's finish]"[1374]



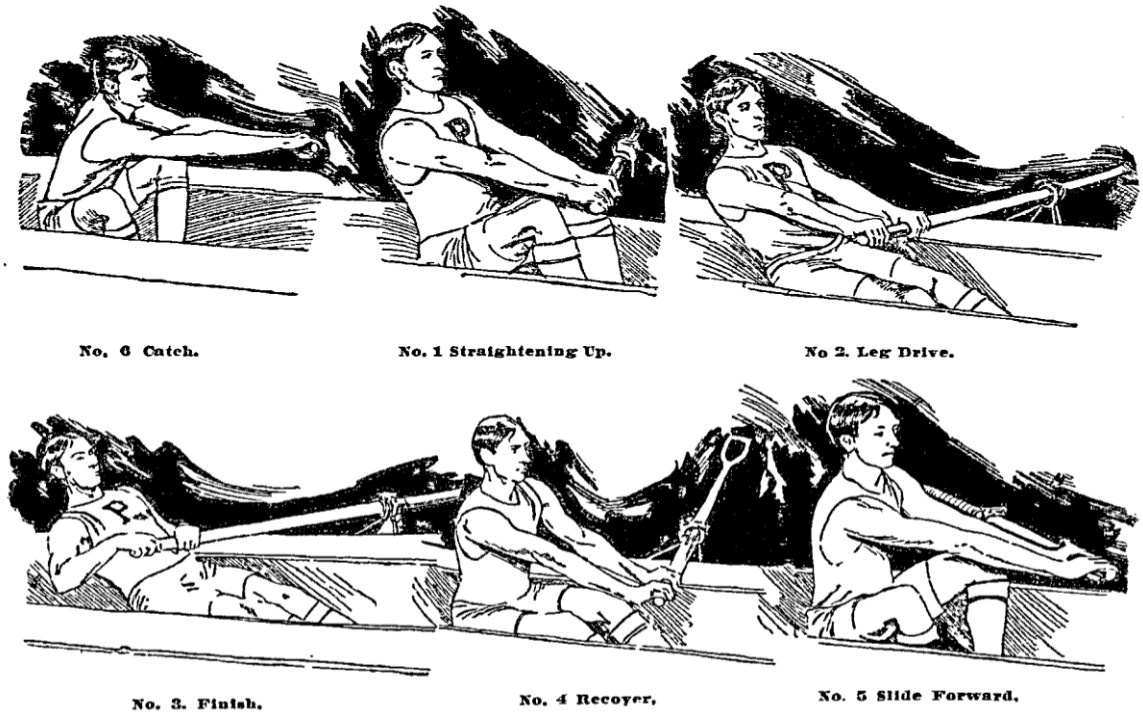
University of Pennsylvania Intercollegiate Athletics

Samuel Crowther in 1899

The New York Times: "Mr. Ward's stroke, rowed by Pennsylvania, is described by him as follows: 'We are rowing the longest stroke on the river, averaging 34, going to 36 on spurts of 10s, then dropping back to 34. The men are reaching further than any other crew, although they do not move their bodies so much as the others, but use the full length of the slide – twenty-two inches. This can be seen by watching the angle of the oars, and not the bodies.

"The leg drive is also greatest of all the crews here. The forward reach finds the legs well drawn up to the armpits, the back almost perpendicular, and the arms at full stretch.

[1371] See Chapter 51.
[1372] See Chapter 92.
[1373] See Chapter 33.
[1374] Crowther, pp. 208, 213



Philadelphia Inquirer

The Ellis Ward Rowing Stroke
1897 4-seat **W.H. Howell** 6'0" 183 cm 164 lb. 74 kg
+10°, +20° to -50°, 0-7, 0-10 6-10 Classical Technique
Schubschlag, concurrent legs and backs with delayed arms

No. 6 represents the 'catch,' in which the body is thrown forward to the limit, the arms extended to full length, and the seat brought up to the end of the slide. Here you are in a position to throw on the whole weight or power of the shoulders at once, which renders possible a quick catch.

No. 1 shows the entire body at work, with the oarsman throwing the whole power of shoulders, back and arms upon the oar and bringing his hands up to his knee.

No. 2 displays the body power more fully applied, the body swinging farther back with a hard drive forward with the legs, to the full limit of their power and length.

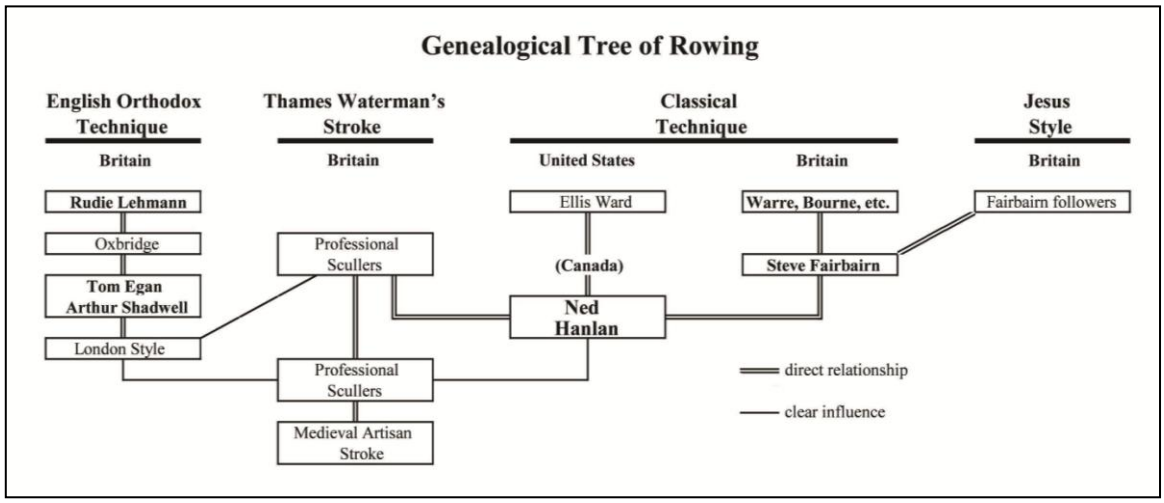
No. 3 represents the finish. The shoulders are swung back to the full limit and the hands brought in hard and close to the body, ripping the oar through the water quick and hard, thereby securing a quick finish.

No. 4 is the 'recover,' where the oarsman straightens up his body a little beyond the perpendicular and shoots his hands forward beyond his knees.

In **No. 5** the oarsman follows the hands up a little more with the body and crawls forward on the slide gradually, which does not retard the speed of the boat. In Ward's system, there is no chance for the boat to lag between strokes.

Then comes **No. 6** again, which is a further development of Nos. 4 and 5, and ensures a quick, hard catch.

– The Various Positions of the Ellis Ward Rowing Stroke, Now Being Taught in Philadelphia,
The Philadelphia Inquirer, February 21, 1897



"The catch is easy, the blade being slightly inclined as it strikes the water.

"When the blade is fully in, the force of the legs, slide, and back is applied with all the power possible.

"The blade slides out of the water easily, and the recovery is almost instantaneous, yet not checking the boat.'"[1375]

This technique can be summarized as +10°, +20° to -50°, 0-7, 0-10, 6-10. The oar was placed in with a vertical motion at the end of the recovery. Legs and back initiated the pullthrough, and after the legs were flat, the back and the delayed arms finished the stroke strongly. Force application was *Schubschlag*, and the boat accelerated smoothly from the entry to the release.

Genealogical Tree

In reference to the three branches of the genealogical tree of rowing technique,[1376] given the concurrent legs and back, this is **Classical Technique** as opposed to English Orthodox Technique or the Thames Waterman's Stroke. The influence was direct from Ned Hanlan to Ellis Ward.

There was another factor at work as well. Ward custom-ordered his boats and made his own oars, and the load he had built into the Penn equipment was lighter than that of their opponents. Accordingly, in the 1898 Poughkeepsie Regatta, Penn consistently rated four beats higher than their opponents and came on strong late in the race, a typical scenario for a light-loaded crew that is still seen today.

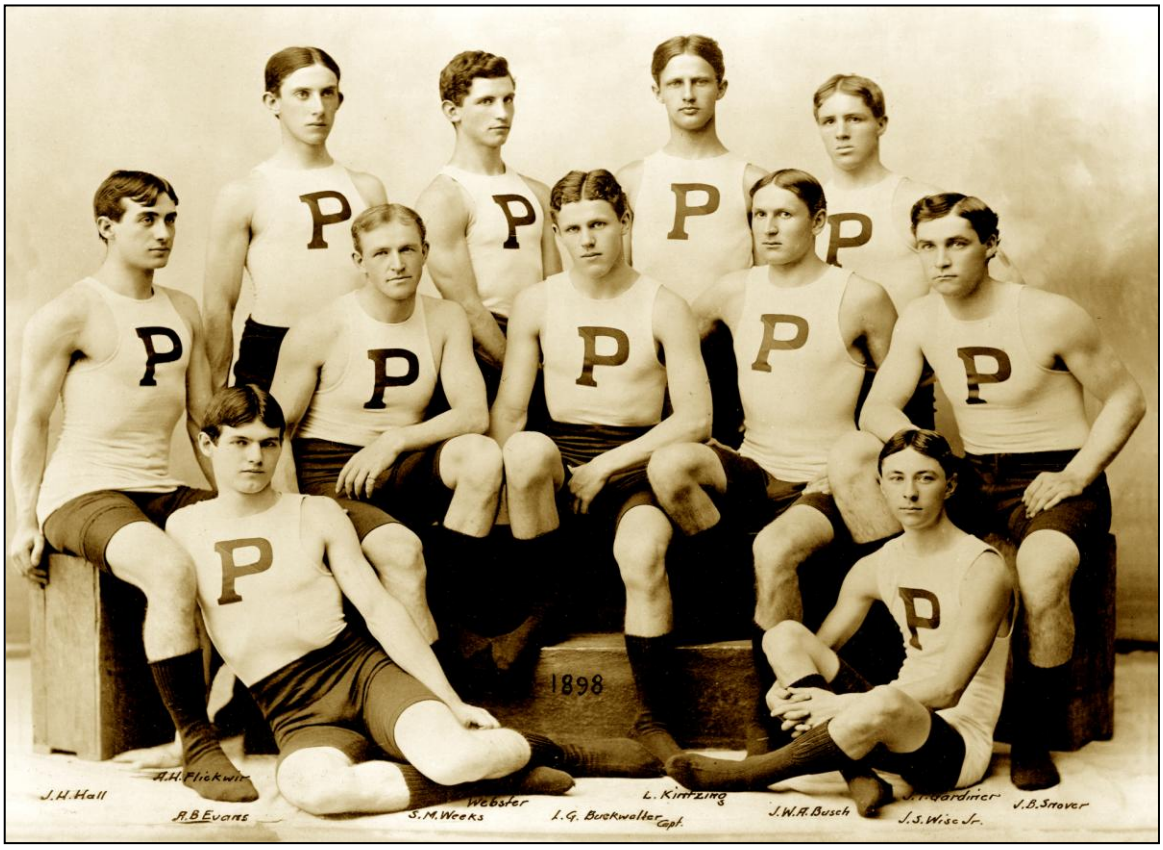
The 1898 IRA

Having swamped at Poughkeepsie in 1895 and 1897, Penn asked that the 1898 IRA be held over a three-mile course on Saratoga Lake. Ironically, the races would end up being postponed one day due to wind-blown chop.

The Saratoga race was preceded by the renewed Yale-Harvard Race in New London, to which, at Rudie Lehmann's urging, Cornell had been invited. For the second consecutive year, the farmers from Ithaca won over the gentlemen of Yale and Harvard, this time by two and a half lengths.[1377]

Cornell then traveled to Saratoga with the same boat that had won so easily in New

[1375] 'Varsity Men Row Today, *The New York Times*, July 2, 1897
[1376] See Chapter 13.
[1377] See Chapter 35.



University of Pennsylvania Intercollegiate Athletics

University of Pennsylvania Varsity Eight
1898 IRA Champion, Saratoga
1 **Pennsylvania** 15:51.5, 2 **Cornell** 16:01, 3 **Wisconsin** 16:07, 4 **Columbia** 16:21

Back: **Arthur Flickwir** 164lb. 74kg, **Webster** (substitute), **Lester Kintzing** 150lb. 68kg,
Stroke **John P. Gardiner** 148lb. 67kg
Middle: **J.Herbert Hall** 160lb. 73kg, **Stephen Weeks**, **L.G. Buckwelter**,
John Busch, **James Snover** 164lb. 74kg
Front: **A.B. Evans** (substitute), Coxswain **John Wise**

London. They were considered the heavy favorites.

On the other hand, Pennsylvania had only one man with varsity experience, "and most of the men were in their first year of rowing. The stroke, **John P. Gardiner**, a freshman, had never stroked a crew before.

The race was to be a test of the two systems, that of Cornell and that of Pennsylvania.

The New York Times: "Columbia started off with a 36 stroke, Wisconsin 38, Cornell 34, and Pennsylvania 40. Before a half-dozen lengths had been rowed, the Wisconsin boys with their 'Yarra Yarra' stroke[1378] which, while ragged, proved to be forceful, had forged to the front, and at the half-mile the wearers of the cardinal with

[1378] This is a reference to the Wisconsin coach, **Andrew M. O'Dea**, a former Australian professional sculler from Yarra Yarra Rowing Club in Melbourne. See Chapter 106.

AMERICAN ROWING COMES OF AGE

THE WINNERS OF THE INTERCOLLEGIATE REGATTA AT POUGHKEEPSIE—THE ATHLETES OF THE UNIVERSITY OF PENNSYLVANIA AND THEIR TRAINER.

Leslie's Weekly, July 20, 1899

University of Pennsylvania Varsity Eight
1899 Poughkeepsie Regatta Champion
1 **Pennsylvania** 20:04, 2 **Wisconsin** 20:05.5, 3 **Cornell** 20:13, 4 **Columbia** 20:20

Bow **Lester Kintzing** 150lb. 68kg, 2 **William Howell** 162lb. 73kg,
3 **Fuller Davenport** 160lb. 73kg, 4 **James Snover** 164lb. 74kg,
5 **Arthur Flickwir** 164lb. 74kg, 6 **John Busch** 165lb. 75kg,
7 **J. Herbert Hall** 160lb. 73kg, Stroke **John P. Gardiner** 148lb. 67kg,
Coxswain A.B. Hager 111lb. 50kg

their terrific body swing and exceptionally long reach had a lead of half a length.

"All the crews were rowing in good form, and Cornell, who was trailing in the rear, put on a spurt and was on almost equal terms with Columbia, which was second. In this way they rowed to the mile flag, which they passed with Wisconsin a length in the lead and rowing a stroke that was pushing the boat through the water at a terrific rate of speed.

"Wisconsin, Cornell and Columbia were rowing a 34 stroke, and Pennsylvania 38. Just after passing the mile, the Badger boys

began splashing badly, but they still maintained their lead. Cornell had worked up to second place and was putting up a strong spurt to catch the leader. The mile and a half was reached with the crews in the same relative positions. The speed shown by the Wisconsin boys was a surprise to everybody. As the crews approached the second mile, the deciding efforts of the crews were made.

"The Pennsylvania boys went up with a rush, rowing a 38 stroke, and before the two-mile flag had been reached they had taken the lead from Wisconsin, and the form and speed displayed by the Quakers convinced every one that the race had been decided so far as the winner was concerned.

"The Wisconsin boys pluckily held on to second place, rowing a 34 stroke. It was at this juncture that the 'crack Cornellians' were seen to 'shoot their bolt.' [Cornell Captain] Colson called on the men to go after Pennsylvania. The men responded with a will, but their reserve force, which was so apparent in the New London contest, did not show itself, and while they got up on even terms with the Wisconsin boys, it was seen that the Quakers could never be caught by Courtney's men.

"Columbia in the meantime was unable to keep up with the terrific pace set by the leaders and was no longer a factor in the race.

"In the last mile Pennsylvania skimmed over the water like a swallow, her fast stroke fairly lifting the shell from the water, and crossed the line three and a half lengths in the lead. Cornell and the 'Yarra Yarra' boys had a desperate fight over every inch of the last mile for second place, the difference between her boat's nose and that of Wisconsin being less than a length. The announcement of the time would indicate nearly two lengths, but the time keepers were 300 feet away from the finish line.

"Cornell's defeat was a big surprise to the Ithacans, but they bore it in a most manly way. 'We haven't any excuse to offer,' said Coach Courtney. 'We simply met a faster crew and lost. Pennsylvania rowed a great race, and won fairly and squarely. That is all we can say.'

"Coach Ward is perhaps the happiest man in the state. When seen directly after the race, he said, 'It was a great race, undoubtedly the best college race ever rowed in America. We won because we rowed the fastest. Cornell deserves great praise for her magnificent race.'"[1379]

Technique Analysis: Quasi-English versus American

Crowther: "The time of 15:51½ is the fastest that an eight has ever [as of 1905] gone on three miles of dead water.

"The race demonstrated that the quasi-English style of Cornell [Courtney's Extended Body Swing Style] was wrong, and like the Yale style of the same time, was an unhappy combination of the two systems that could only result in failure when the crew was pitted against where the style was logical and a direct application of the basic principles of the stroke."[1380]

Ward: "My stroke differs from any other. It is genuinely American; nothing half-English about it, and it has wiped up a British crew every time it has gone up against one."[1381]

To Crowther, the essential distinction between "Quasi-English" and "American" technique came in the length of the slide and the coordination of the legs and back. The British on short slides began their

[1379] Pennsylvania's Varsity Race, *The New York Times*, July 3, 1898
[1380] Crowther, pp. 125-6
[1381] Qtd. by Rank, op.cit., p. 50

University of Pennsylvania Intercollegiate Athletics

University of Pennsylvania Varsity Eight
1900 Poughkeepsie Regatta Champion
1 **Pennsylvania** 19:44.6, 2 **Wisconsin** 19:46.6, 3 **Cornell** 20:04.2,
4 **Columbia** 20:08.2, 5 **Georgetown** 20:19.2

Back: **John Atkin** (substitute), Bow **Lester Kintzing** 150lb. 68kg, **Patterson** (manager),
Coach **Ellis Ward**, 4 **Gordon Allyn** 179lb. 81kg, **Francis Sinkler** (substitute)
Middle: 7 **Arthur Flickwir** 164lb. 74kg, 5 **Fred Stehle**, 6 **James Snover** 164lb. 74kg,
Stroke **John Gardiner** 148lb. 67kg, 2 **Samuel Crowther, Jr.** 169lb. 77kg
Front: 3 **Fuller Davenport** 158lb. 72kg, Coxswain **L.J. Smith**

pullthroughs with a sharp entry initiated by the back and saved the leg drive for the second half of the stroke. Indeed, Cornell was employing shorter tracks than Penn, and they also used their backs and legs sequentially, initiating with their backs. This was what made Crowther classify their technique as quasi-British.

Ellis Ward taught that the legs and back should be used concurrently from the entry on long slides, so the point of distinction that Crowther made was that Cornell employing a sequential pullthrough on short slides had been beaten by Penn employing a concurrent pullthrough on long slides.

This parallels **Steve Fairbairn**'s introduction of almost exactly the same innovations to Jesus College, Thames Rowing Club and Cambridge University in the 1880s.[1382]

[1382] See Chapter 15.

As for force application, it would be two more years before Courtney discovered on his own that his sequential approach wasn't giving him the smooth, continuous *Schubschlag* result he instinctively desired.

As long as Cornell continued to row Charles Courtney's **Extended Body Swing Style**, Penn would continue to beat them handily.

Ward: "All the other coaches in the country have tried their hands at importing something. Bob Cook, for instance, got hold of some foreign ideas, and so did Courtney. Harvard imported a coach [Rudie Lehmann]. But I keep moving right along, and I have never been defeated yet."[1383]

The 1898 Penn win was the first of three consecutive IRA titles and represented the emergence of an American collegiate version of Hanlanesque **Classical Technique** already seen in Britain at the instigation of Steve Fairbairn,[1384] while Bob Cook's sequential Quasi-English technique, which was still the conventional wisdom at many American colleges, was an echo of English Orthodoxy. The two branches of rowing technique which were at war in Great Britain also divided American rowing.

[1383] Qtd. by Rank, op.cit., p. 50
[1384] See Chapters 14 and 15.

37. Ellis Ward Goes to Henley

1901 Grand Challenge Cup

Ward's crews dominated the IRA from 1898 through 1900.

The Sunday Bulletin, Philadelphia: "The winter following Penn's third straight at Poughkeepsie, it was decided to compete in the Henley.

"Five of the 1901 eight were holdovers from the 1900 crew which took the Poughkeepsie title race, which was Penn's third successive conquest on the Hudson. Two of the five rowed in all three championships. Two others pulled oars in two of the Poughkeepsie classics.

"Stroke of all three championship crews was **John P. Gardiner**, who in the twilight years of an old century and the dawn of a new one, was rated as one of America's best oarsmen.

University of Pennsylvania Intercollegiate Athletics

On the ***SS Wäsland***, 1901

"In 1901, his younger brother, **William G. Gardiner**, rowed back of him at No. 7. Bill Gardiner later captained the football team.

"The University made careful plans to develop the oarsmen especially for this race. Through most of the winter and spring, Coach Ellis Ward trained his boatmen indoors or on the river daily. Ward's task was to convert his four-mile champs into sprinters for the Henley distance, and it was apparent that the change-over was complete when the Penns beat Navy in a trial race before leaving for the Thames.

"To keep his athletes in condition during the crossing, Ward took his rowing machines along and set them up on the deck of the liner *Wäsland.*"[1385]

Crowther: "The managers wisely chose an inn on Remenham Hill, about a mile from the river, for their quarters, and thus escaped the enervating valley which had so affected Cornell and Yale. The crew went into regatta week in most excellent condition."[1386]

The British were very interested in the Penn equipment, ***The Field*** reporting: "They have brought two paper boats with them, fitted with seats which slide up a slight gradient and are fixed down the centre of the craft. Swivel rowlocks are used, and the oars are rather short and heavy, with small handles and very broad blades."[1387]

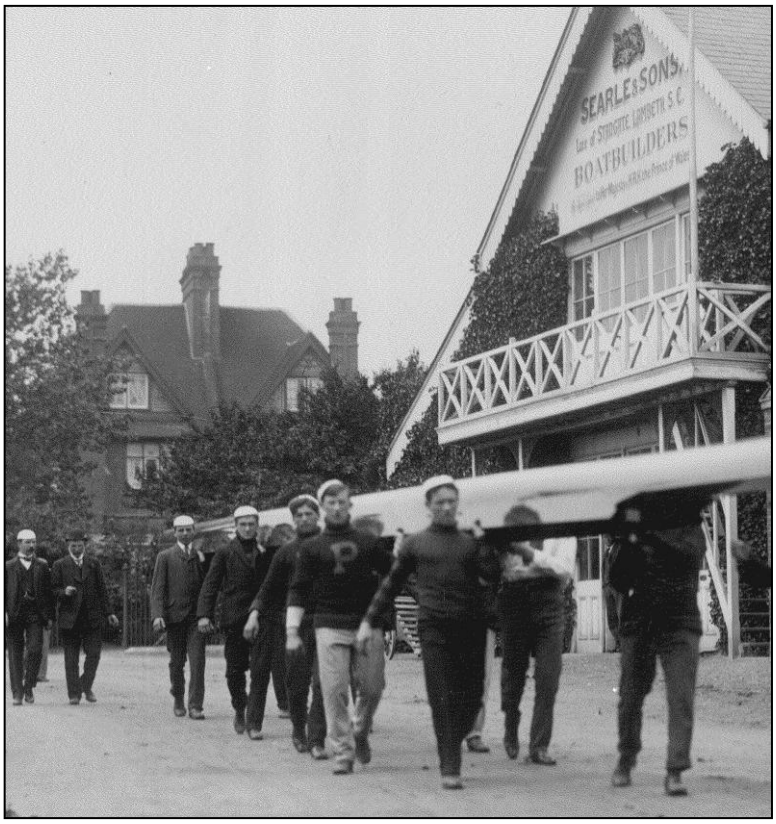
Since Ward's college students were not as strong or as well trained as professional rowers such as himself had been, and since long mileage was impossible on the Schuylkill River in Philadelphia, there being only three miles of clear water above Boathouse Row, Ward coached for high ratings. "Where they had rowed 33 and 34

[1385] Pollock, Ed, Travel Times Changed Since 1901 Henley – But Not Rowing Times, *The Sunday Bulletin*, Philadelphia, June 26, 1955
[1386] Crowther, p. 132
[1387] Qtd. by Dodd, *Henley*, p. 88

in the four-mile race, they raised the stroke to 36 and 38 in the short Henley stretch."[1388]

According to ***The Times*** of London, "Their style of rowing is quite contrary to the approved methods in this country, and is much the same as all the crews which have come from the USA. Their stroke is very short, and there is no body swing [forward]."[1389]

The Field reported: "They seem to miss the first part of the stroke"[1390] [i.e. they didn't explode at the entry *Kernschlag*-style, like English Orthodox crews].



University of Pennsylvania Intercollegiate Athletics

1901 University of Pennsylvania Varsity Eight
Henley-on-Thames, England

Only five years after Courtney had brought Cornell to Henley, Ward was the era's second *and last* American professional coach to be allowed to attend the Royal Regatta.

He had tried to learn from Courtney's experience six years earlier.[1391] The Penn crew "was careful to do their practice in the open, giving out the time of every trial, in order to conduct themselves well in English eyes and avoid the criticism leveled at their predecessors."[1392]

It wasn't enough.

"Ellis Ward, a professional coach, returned to the Cornell policy of secluding his crew in remote quarters and holding them aloof from social diversion among boating men, although with more tact than Courtney had displayed.

"An aftermath of criticism against 'professional methods' followed, old prejudices were revived, and notice was served that American crews wishing to row at Henley must leave their salaried instructors at home."[1393]

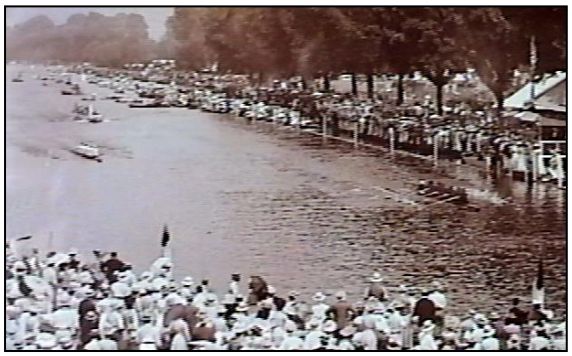
Penn won twice easily in the preliminaries of the Grand Challenge Cup, first by three lengths over **London Rowing Club**, then in their semi-final by four lengths over **Thames Rowing Club**, the Penn technique actually receiving some local praise, however faint.

[1388] Crowther, p. 132
[1389] Qtd. by Dodd, *Henley*, p. 89
[1390] Qtd. by Dodd, op.cit., p. 88
[1391] See Chapter 32
[1392] Dodd, op.cit, p. 90
[1393] Paine, p. 484

AMERICAN ROWING COMES OF AGE

University of Pennsylvania Intercollegiate Athletics

1901 Grand Challenge Cup, 1st Round
Penn over **London Rowing Club**, 3 lengths



University of Pennsylvania Intercollegiate Athletics

1901 Grand Challenge Cup Semi-Final
Penn over **Thames Rowing Club**, 4 lengths

Rudie Lehmann: "They rowed well together, and were on the whole, I think, faster than either Cornell or Yale had been."[1394]

In the final for the Grand, Penn met **Leander Club**, "a strong crew composed of five Cantabs, two Oxonians, and one Etonian."[1395] "Not a single undergraduate from either university was able to make the crew, which contained such sterling oars as **C.D. Burnell**, the strongest sweep in England, **Dudley Ward**, **C.J.D. Goldie**, **R.B. Etherington-Smith**,[1396] and other men as well known."[1397] They had disposed of the very tough **Club Nautique de Gand**[1398] (Ghent, Belgium) in their own semi-final.

University of Pennsylvania Intercollegiate Athletics

1901 Grand Challenge Cup Final
Leander Club over **Penn**, 1 length

In 1957, historians **Haig-Thomas** and **Nicholson** looked back on the 1901 Penn crew: "Their style and rowing were identical with that of the American crews today. They got their hands away very smartly and sat up well. They were shorter in the swing [forward] than Leander and not quite as quick [i.e. aggressive] at the entry, but like them used their slides [i.e. distributed their leg drive] all through the stroke.

"Their short swing [forward] meant that they did not get their weights so well on to

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[1394] Lehmann, p. 222
[1395] Lehmann, p. 222
[1396] all already rowing deities at Henley. Burnell and Etherington-Smith would go on to Olympic Gold Medals in 1908. See Chapter 24.
[1397] Crowther, p. 132
[1398] four-time defending European Champions. They would go on to win the Grand in 1906, 1907 and 1909.

Lehmann, *The Complete Oarsman*

1901 Grand Challenge Cup Final
1 **Leander Club** 7:05, 2 **University of Pennsylvania**, verdict: 1 length
Penn: Bow **Ralph Zane** 160lb. 73kg, 2 **Robert Eisenbrey** 141lb. 64kg,
3 **Fuller Davenport** 158lb. 72kg, 4 **Samuel Crowther, Jr.** 169lb. 7 kg,
5 **Arthur H. Flickwir**, Captain, 171lb. 78kg , 6 **Gordon Allyn** 179lb. 81kg,
7 **William Gardiner** 174lb. 79kg, Stroke **John Gardiner** 154lb 70kg,
Coxswain **L.J. Smith**
+10°, +40° to -30°, 0-7, 0-10 5-10, rate 36, sprint 38
Backs and legs began concurrently.
Rhythm was Fairbairnesque acceleration entry-to-release

their blades, which told against them over the second half of the course."[1399]

Lehmann: "Pennsylvania led at first, but never by very much. After three minutes of rowing, they were a quarter of a length ahead at Remenham,[1400] and this was the utmost they could do."[1401]

Crowther: "Just below Phyllis Court, Leander put on all their power and gained a length before Pennsylvania could respond, and this advantage gave the Englishmen the race.

"Gardiner raised the stroke again and again, but not until the last hundred yards could a gain be made. Then Pennsylvania crept up inch by inch, and the boats went over the finish with the Penn bow at the Leander coxswain.

"It was a grand race and the closest, hardest battle that England ever made to keep the cup at home."[1402]

[1399] Haig-Thomas and Nicholson, p. 36
[1400] For Henley landmarks, see Chapter 5.
[1401] Lehmann, p. 222
[1402] Crowther, p. 133

According to one of the Penn oarsmen, "These fellows over here row as if the devil were after them when they're in a race, and they are too fast for us."[1403]

"**Ralph R. Zane**, who was a freshman when he rowed at Henley, often reminisced about these three races and the loud and enthusiastic cheering of an American who was on the same spot on the bank each day. His voice could be heard above all others, yelling, 'Come on, Penn.'

"Zane glanced at him, saw a familiar face, but couldn't place him until he met him later in a hotel library. He was **Gentleman Jim Corbett**, one-time heavyweight boxing champion, then on tour of Europe."[1404]

Penn was the first non-British crew ever to make a Grand Challenge Cup final at Henley.

As will be discussed in Chapter 38, Charles Courtney was about to adopt a technique similar to the **Classical Technique** originated in America by Ellis Ward at Penn. Once he had done so, Penn would never again beat Cornell for the rest of Courtney's career. Ward continued coaching Penn until he turned over the reins to **Vivian Nickalls**[1405] of Great Britain in 1912.

Vivian Nickalls: "After five years with the Detroit Boat Club, I became the coach of the University of Pennsylvania's crews. Ward had been their coach for many years, and a charming old man he was, but he had had no success for a long time."[1406]

Nickalls made some progress in rejuvenating the Penn program but he soon left to defend his country in World War I.

Penn would not win another IRA until 1967.[1407]

[1403] Qtd. by Paine, *American*, p. 496
[1404] Pollock, op.cit.
[1405] See Chapter 24.
[1406] V. Nickalls, p. 111
[1407] See Chapter 94.

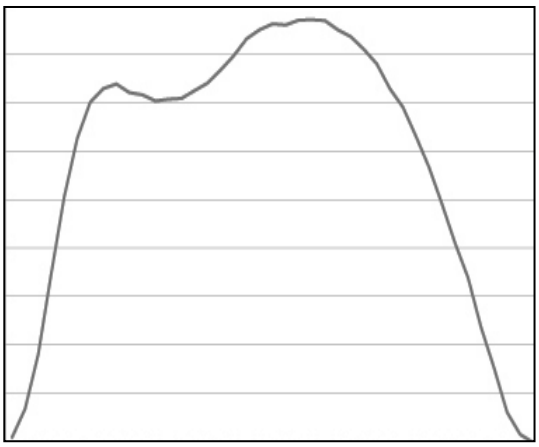
38. History's First Significant Rowing Force Curve Experiment

Courtney in 1901 – History of Force Curve Research

By the fall of 1900, Cornell had been beaten by Penn for three straight years. Searching for an explanation, **Charles Courtney** asked a Cornell rowing alumnus named **Tom Hall**, "a graduate student in engineering, if there was a machine that could show just how much power was being applied in the pull of the oar. Hall said there was, borrowed it from the engineering department, and hooked it to one of the rowing machines. The device had a recording pen which marked a curve on a sheet of paper as the power it measured increased or fell off."[1408]

Courtney wrote, "Well, right there I learned more in fifteen minutes than I had learned before in fifteen years. We found that there was a break in the middle of the pull, caused by a pause in the body swing at the moment the slide was started.

"We had been starting the leg drive after beginning the pull with the backs. The curve made by the recording pen went up and then down and then up again, showing clearly a loss of power just before the middle of the stroke."[1409]



Author

Conjectural Force Curve of Courtney's Extended-Backswing Technique
0°, +30° to - 30°, 4-8, 0-5, 7-10
The first peak was the back motion.
The second peak was the leg motion.
Concavity at the end was the ferryman's finish.

Force Curves

The conjectural reconstruction of the curve that Courtney recorded is the first example of a **force curve** to be illustrated in this book. In all cases, the vertical or *y*-axis represents force, and the horizontal or *x*-axis represents either distance or time. In essence, the pullthrough starts on the left and finishes on the right.

I have omitted any scalar quantities and normalized all graphs to a set proportion of 9 by 11 because it is the **shape of the curve** that is of primary interest to the subject of technique and it is useful to compare curve shapes of athletes of varying strengths and varying eras.

[1408] Look, p. 139
[1409] Courtney, qtd. by Young, p. 56

With his first force curve experiment, Courtney had discovered that his sequential Extended Body Swing Style produced a specific and distinctive force curve which intuitively struck him as not ideal. He also discovered that if he changed the technique, he immediately got a very different and equally distinctive force curve.

Courtney: "We experimented and found that we must start the leg drive and the body swing together at the very catch of the oar and carry them through together. In that way, we got a single regular curve on the paper, like a wide letter U upside down, showing that we were getting the maximum power in the middle of the stroke, where it ought to be. The stroke as thus modified has been the standard ever since."[1410]

Author

Courtney's Ideal Curve
0°, +30° to - 30°, 0-10, 0-10, 0-10
Only concurrent use of all three major muscle groups yields a "letter U upside down" curve.
Interestingly, the curve is a **parabola**.

Segmented Force Application

Courtney's experiment was an early scientific test of the biomechanical principle of **Summation of Segment Velocities**. In the language of biomechanics, a muscle is "recruited" when its individual fibers are signaled to begin their efforts to contract. What Courtney discovered, much to his astonishment, was that **sequential recruitment of muscles all too often leads to segmented-force application**, and common sense told him that continuous effort from entry to release was preferable.

In other words, the new Courtney Stroke would use **legs and back concurrently** in order to produce a continuous surging stroke from entry to release.

But what about the arms?

Arms

Over the years, Courtney's use of arms on the pullthrough has been a matter of some confusion. Part of the problem seems to be Courtney's own words. In Charles Young's 1920 biography, ***Courtney and Cornell Rowing***, and again in Robert F. Kelley's widely-read 1932 history, ***American Rowing***, Courtney was quoted as saying: "Another point which cannot be too closely followed is to keep the arms perfectly straight until the shoulders have gone back as far as it is intended they should go."[1411]

All the rowers, amateur and professional, in Thomas Eakins' paintings of the 1870s rowed with straight arms until the end of the stroke.[1412] This was still universal in collegiate rowing of the 1890s.

Ellis Ward: "All my crews, as well as Cook's and Courtney's, show the straight arm, as do all our professionals."[1413]

In practice, this would have tended lead to a ferryman's finish, characteristic of

[1410] Ibid.

[1411] Qtd. by Young, p. 92, Kelley, p. 218

[1412] See Chapter 9.

[1413] The Various Positions of the Ellis Ward Rowing Stroke, Now Being Taught in Philadelphia, *The Philadelphia Inquirer*, February 21, 1897

1916 Poughkeepsie Regatta Program

1916 Cornell University Varsity Eight, second in the Poughkeepsie Regatta
1 Syracuse 20:15.4, 2 Cornell 20:22.6, 3 Columbia 20:41.2, 4 Pennsylvania 2-:52.8

Coxswain **George Kephart**,
Stroke J.L. Collyer 5'11½" 160lb., 7 L.G. Brower 6'0" 170lb.,
6 A.A. Cushing 6'0" 178½lb., 5 G.A. Worn 6'0" 179½lb.,
4 F.J. Nelms 6'0" 179lb., 3 R.H.Bacon 6'0" 166lb.,
2 L.R. Lytle 6'1" 170lb., Bow K.H. Fernow 5'10" 164lb.

Courtney's own sculling technique[1414] and of the original Pump-Handle Style he taught at Cornell through 1895.[1415]

Late arm draw was also a characteristic of English Orthodoxy, which influenced Courtney from 1896 through 1900 after his trip to Henley and was part of his Extended Body Swing Style of that period.

Though he did not specifically mention arms in describing his work with the force curve machine in the fall of 1900, Courtney would quickly have discovered that delayed arm effort *also* interrupted "the single regular curve" he was looking for, so the arms quote above must have predated the 1900 experiments.

This was confirmed by historian **Margaret K. Look** in her sensational Courtney biography. She discovered that the Young/Kelley quote also did not ring true with **George S. Kephart**, Cornell Class of 1917.

Kephart's analysis: "It is my recollection that power of legs, back and arms was used [from the entry]; and therefore, that the arms were flexed to bring the oar up to the body [and not the body up to the oar].

"It is also my recollection that the three actions were completed simultaneously.

"If the arms had been kept straight until the shoulder swing was completed, the arm flexing would have been the last and weakest part of the stroke.

[1414] See Chapter 11.
[1415] See Chapter 31.

"Would it not also increase the tendency to buckle or slide up to meet the oar [ferryman's finish] instead of using the arm power to pull the oar back to the body?"[1416]

It is inevitable to speculate whether or not the example of Ward's Penn crews had a significant influence, even pointing the way as Courtney formulated his new approach to force application. After all, though Cornell had demonstrated their superiority over Harvard and Yale, by 1900 Penn had crushed them at the IRA for three straight years. That *had* to have made a strong impression on Courtney.

Nevertheless, Courtney's force curve experiment completes a remarkable picture of American collegiate rowing at the beginning of the 20th Century. Two coaches, **Ellis Ward** at Pennsylvania and **Charles Courtney** at Cornell, were both teaching **Classical Technique**, concurrent *Schubschlag* pullthroughs. This was nothing short of Fairbairnism at its very best, five thousand miles from Cambridge and several years before Steve Fairbairn returned from Australia to take over coaching at Jesus College!

But by adding concurrent arms, Charles Courtney may just have coached the first crew in history with body mechanics that would have looked modern. Once he had adopted concurrent legs, back and arms, he was never again bothered by competition from the Pennsylvania crews of Ellis Ward.

Force Curves in History

Courtney's rowing force curve experiment was not history's first. In the 1895, Oxford coach **Gilbert C. Bourne**[1417] collaborated with a fellow member of the Oxford faculty, **E. Cuthbert Atkinson**, who had "invented a **rowing indicator** which recorded, in a series of curves, not only the type of stroke rowed by individual oarsmen but also the amount of work done at every part of the stroke. By means of this indicator, Mr. Atkinson obtained a number of valuable data, almost the only ones of their kind existing."[1418]

Atkinson published his results,[1419] but there is no indication that Bourne or any other coach ever actually used the research to advance or improve the theory or practice of rowing technique.

Courtney made use of his, and in so doing, changed rowing history, as will be discussed in the following chapters.

Characteristics

Force curves have been of interest to a number of coaches and theorists throughout the second half of the 20th Century, ever since computers began making generation of curves increasingly practical.

Biomechanical testing conducted by Professor **Toshihiro Ishiko** at the 1963 Tokyo International Sports Festival included collection of force curves from individual athletes with on-the-water telemetry and high-speed cameras.[1420] He discovered that curves can take on an infinite variety, and that there was no guarantee of uniformity within crews, even those which have been together a long time.[1421]

Professor **Ernst Herberger** of the German Democratic Republic (GDR) discussed force application strategies in ***Rudern, the GDR Text of Oarsmanship***.[1422]

[1416] George S. Kephart, qtd. by Look, pp. 146-7
[1417] See Chapter 16.
[1418] Bourne, *Textbook*, p. 10
[1419] E. Cuthbert Atkinson, A Rowing Indicator, *Natural Science*, March 1896; Some More Rowing Experiments, *Natural Science*, August 1898
[1420] Mallory, *Optimal Force Application*, p. 4
[1421] See Chapter 168.
[1422] Herberger, p. 74

Force curve analysis has been discussed at length at FISA Coaches' Conferences by **Theo Körner**[1423] of the GDR in 1978, by **Christov** and **Zdravkov** [1424]of Bulgaria in 1988 and by me in 1990.[1425]

It turns out that curves tend to be as unique as fingerprints, and like fingerprints, an individual's curve tends to be quite consistent despite changes in rating and/or effort level.

Bulgarian National Coaches: "In the boat, as well as on the rowing ergometer, each oarsman shows an interesting and personally typical style."[1426]

Further, the shape of the curve tends to be consistent over long periods of time during and after a rower's career *unless* the athlete makes a concerted effort to change it. The Bulgarians called these distinctive and persistent curves "motion habits."[1427]

Force curves have been used to attempt to select compatible rowers to form compatible boats.

Christov and **Zdravkov**: "The selection of multiseat boats [for the Bulgarian team] is done mainly on the basis of equality in rowing style [i.e. similar force curves]. . . . Taking into consideration the good results . . . obtained in recent years, some of the achievements can be explained with the new technical systems."[1428]

Miloš Janša, coach of Slovenia's **Veslaški klub Bled**:[1429] In larger crew boats, the internal unison among crew members is of great significance, [and] it is mostly represented by the equal application of power throughout the drive. This can only be demonstrated by identical force curves.

"The curves are carefully studied and matched across all members of the crew. Ideally, all crew members should generate identical power curves."[1430]

Force curves have also been used to teach rowers to adopt a coach's preferred force pattern. It turns out that a rower can sit in front of a computer monitor and change the shape of his or her force curve at will almost immediately just by watching it in real time and thereby receiving direct biofeedback.[1431] However, it may take as many as one hundred thousand repetitions to make any switch permanent.[1432]

Organic Integrity

During the first one hundred years of sport rowing, most coaches instinctively preferred a pullthrough with organic integrity and thought their crews were doing just that. Through his experiment, Courtney discovered, much to his surprise, that his oarsmen were rowing a segmented pullthrough with discreet pulses of effort resulting from the sequential use of backs and then legs.

As long as the athlete is accelerating the oar handle consistently, the force curve will

[1423] Prof. Dr. Theodor Körner, Force Patterns on the Oarlock, *7th FISA Coaches' Conference*, Werder, GDR, 1978

[1424] Roumen Christov, Roumyan Christov & Nikolay Zdravkov, Selection and Testing System Based on Biomechanical Studies in Racing Boats on Rowing Ergometer, *17th FISA Coaches' Conference*, 1988

[1425] Peter Mallory, Optimal Force Application in Rowing, the Analysis of Rowing Force Graphs and Force Graph Biofeedback, *18th FISA Coaches' Conference*, Indianapolis, USA, 1990

[1426] Christov et al, p. 25

[1427] Ibid.

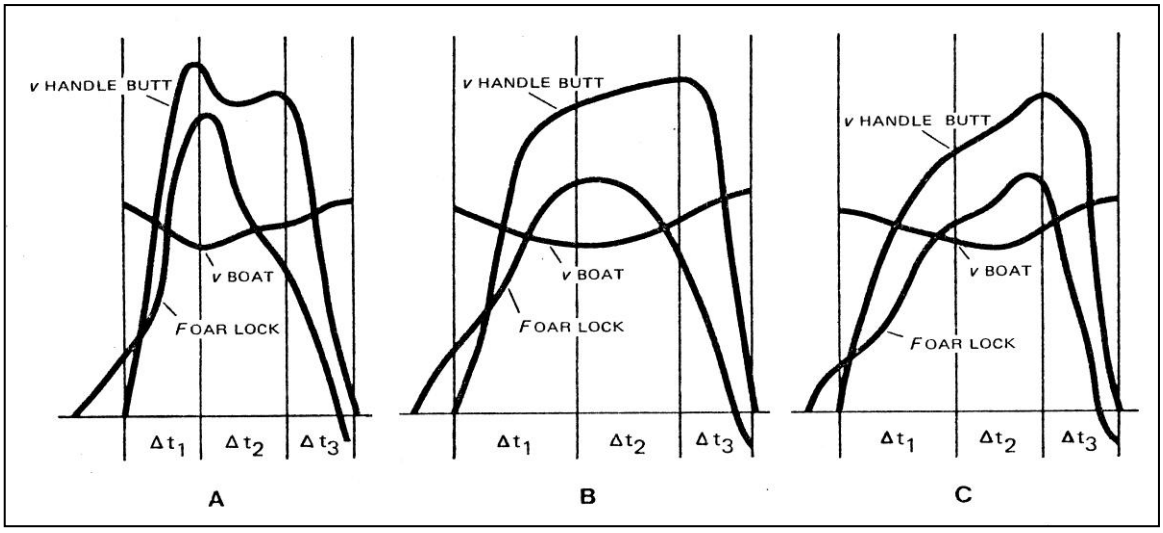
[1428] Christov et al, p. 25

[1429] Bled Rowing Club. See Chapter 123.

[1430] Klavora, Peter & Miloš Janša, *Learn to Scull from Olympic Champions*

[1431] Mallory, *Optimal Force Application*, p. 9

[1432] "This estimate comes from **Hank Genser**, the most experienced coach in the Dutch speed skating arena. This coincides very well with our experience that it generally takes one winter season to modify rowing force curves." - Cas Rekers, personal correspondence, 2008



Körner, Force Patterns of the Oarlock, *1978 FISA Coaches' Conference*

A: ***Kernschlag***: "solid stroke with a hard beginning"
B: ***Schubschlag***: "thrust-stroke"
C: the theoretical opposite of *Kernschlag*, increasing effort with a late force peak

(The force curves are those labeled "***F* OAR LOCK**")

remain smooth and convex. Courtney intuitively understood that whenever the curve went "up and then down and then up again,"[1433] you had an interruption in the force application of the stroke and a corresponding interruption in the acceleration of the boat.

Courtney's preference for "a single regular curve on the paper, like a wide letter U upside down"[1434] represented a search for organic integrity of force application from entry to release. Seventy-eight years later, similar research by German Democratic Republic scientists would come to the very same conclusion.

GDR Coach **Dieter Alterburg**: "In creating a pattern of movement, a fluid, harmonious and smoothly converted progression of motions is important, since every uneven movement of the body or extremities has an adverse influence on both the propulsion and the run."[1435]

GDR Coach **Theo Körner**: "The oarsman tries to maintain the pressure throughout the stroke, and a steady propulsion can be expected.

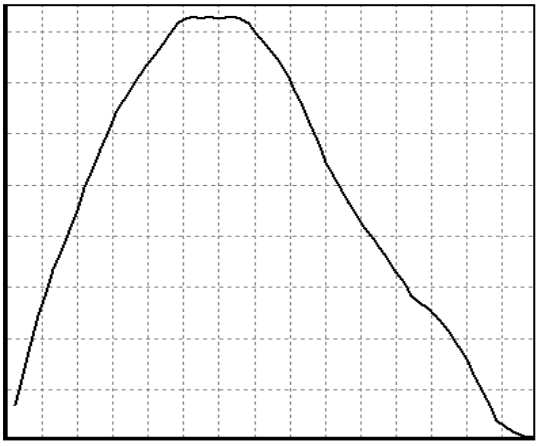
"This profile represents the optimal utilization of force through the central phase and results in continuously increasing boat speed during the drive."[1436]

Emphasis

However, besides organic integrity there is another force curve issue, and that is whether emphasis should be on the pullthrough as a whole or whether the bias should be on the front- or perhaps even the back-half.

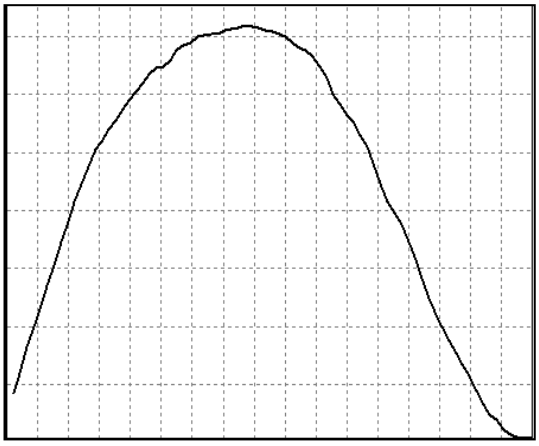
In his presentation, ***Force Patterns on the Oarlock*** at the 7th FISA Coaches'

[1433] Courtney, qtd. by Young, p. 56
[1434] Mallory, *Secret*, p. 197
[1435] Dieter Altenburg, Problems in Rowing, *Rudersport der DDR*, 6/75, p. 9
[1436] Körner, *Force Patterns*, pp. 1-2



Cas Rekers, Rowperfect

Kernschlag
French National Team
Stroke-seat of 1998 French Men's Eight



Cas Rekers, Rowperfect

Schubschlag
British National Team
2001 Men's Eight Template

Conference, Prof. Körner described three representative force application variants, and Prof. Herberger further elaborated on two of them in ***Rudern, the GDR Text of Oarsmanship***.

Körner, referring to the illustration on the previous page: "[Oarsman] **A** shows the variant where the catch is stressed. The force application is maximal early in the stroke, and then the curve falls off rapidly to the finish. A high power impulse at the beginning and a small one at the finish are characteristic of this variant.

"Because of oarsman A's hard catch, his oarhandle speed [labeled "***V* HANDLE BUTT**"] increases rapidly, slackens abruptly, picks up toward the middle of the drive, then drops off. The pressure on the blade evidently decreases soon after the forceful catch, and the boat speed [labeled "***V* BOAT**"] drops sharply."[1437]

Körner was describing a two-part pullthrough, always a concern when front-halfing. **Herberger** called this force application variant ***Kernschlag***, "solid stroke with a hard beginning."[1438]

[1437] Körner, op.cit., p. 2
[1438] Herberger, p. 74

Körner: "[Oarsman] **B** represents a steady force application throughout the stroke with the pressure point found slowly and carefully."[1439]

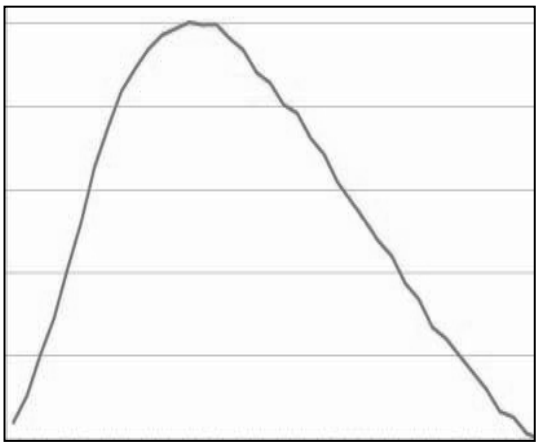
Herberger: "Maximum boat speed will be reached at extraction if the angular velocity of the blades is increased from the time the blades begin to take up pressure and is maintained to the finish with a fluid completion of the stroke.

"We call this kind of propulsion technique "thrust stroke" (***Schubschlag***). We consider the thrust-stroke to be better than *Kernschlag* since, in the pull, the onward-speeding boat is accelerated rationally to the end of the propulsion."[1440]

Körner: "[Oarsman] **C** is the extreme comparison to A. The resistance on the blade is comparatively low during the first part of the stroke, and the point of maximum pressure occurs near the end of the drive.

"Oarsman C does not show a steady and continuous power curve."[1441] Again, a two-part pullthrough, this time with the *second* part emphasized.

[1439] Körner, op.cit., pp. 1-3
[1440] Herberger, p. 74
[1441] Körner, op.cit., pp. 1-3



Author

Peter Billings
1970s U.S. Lightweight

This mostly hypothetical variant, rarely seen in successful competitive rowing,[1442] was not given a separate name by the GDR scientists.

History will teach us that **S*chubschlag*** and ***Kernschlag*** form two ends of a continuum and describe well most of the approaches to force application actually seen in rowing in the real world.

History further records that crews have found success with both approaches. Each has had its proponents, and each yields a distinctive force curve and a distinct feeling to the boat.

When practiced by competent rowers, either approach can yield a *relatively* continuous force curve. Note the real-world illustrations on these pages.

The *Kernschlag* curve above left on the previous page displays a characteristic interruption in acceleration after the initial effort. This is represented by the concave portion of the curve before a final strong effort toward the release. (The 1998 French Eight placed ninth out of ten at the World Championships.)

However, it is quite possible to row *Kernschlag* and maintain a one-piece pullthrough. Note the curve of **Peter Billings**, stroke of the American lightweight eight which toured Western Europe undefeated in 1972. The second half of the curve does not maintain the acceleration of the first half, but organic integrity is preserved.

The *Schubschlag* curve on the above right of the previous page was created by Coach **Harry Mahon**[1443] for the 2000 Olympic Champion British Eight. (The concave section of the curve at the very end of the pullthrough is due to a mild ferryman's finish.)

Today, perhaps the most widely-read biomechanist in the rowing world is **Dr. Valery Kleshnev**, formerly of the Australian Institute of Sport, currently of the English Institute of Sport. Kleshnev has published widely and since 2001 has written his thought-provoking monthly email ***Rowing Biomechanics Newsletter***, available at *www.biorow.com*.

Kleshnev is perhaps the most visible of many coaches and rowers who believe that *Kernschlag* is the more effective force application protocol of the two.

Kleshnev: "It is common opinion that in bigger, faster boats rowers should apply force quicker and earlier during the drive phase."[1444]

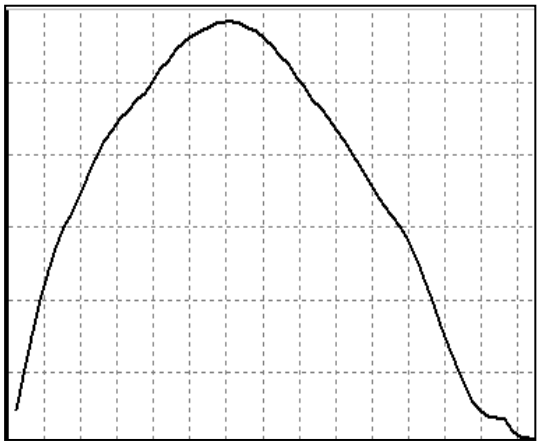
Parabolas

Nevertheless, **Charles Courtney**'s ideal force curve in 1900, the stroke described by **T.S. Egan** in the 1840s, the **Ned Hanlan** stroke, the **Steve Fairbairn** stroke , the **Thames Waterman's Stroke** and Ellis

[1442] One exception is Slovenian World Singles Champion **Iztok Čop**. See Chapter 123.

[1443] See Chapter 133.

[1444] Kleshnev, June 2002



Cas Rekers, Rowperfect

Thomas Lange, GDR
1988, 1992 Olympic Singles Champion
Near-perfect parabola

Ward's American **Classical Technique** were all *Schubschlag*.

In a force curve, the work done is represented by the area under the curve, but that area represents only how much work is being done, not about how effective that work is in moving boats.

In the modern era, if one wishes to compare athletes *quantitatively*, any ergometer or rowing simulator system has the ability to count flywheel revolutions, and I suggest that ergometer scores are roughly equivalent to area under the curve, to work done. Pull harder, do more work, and you get a higher score.

Force graphs allow *qualitative* comparisons. It is an accepted truth that some techniques which allow success on an ergometer do not translate onto the water. To quote a common cliché, ***"Ergs don't float!"*** I believe that the shape of a rowing force curve is indicative of how well an athlete converts his work into boat speed.[1445]

It is an interesting fact that the curve shape which mathematically maximizes the area underneath is a **parabola**, the "wide letter U upside down"[1446] that Courtney chose, and the *Schubschlag* curve that the GDR scientists preferred.

We shall discover that a perfect parabola occurs only rarely in real-world rowing, but many individuals and crews have come close, usually without knowing it, in the century since Charles Courtney performed his experiment.

We shall discover that throughout history, even if one starts with the goal of organic integrity and *Schubschlag*, the act of focusing on sequential motion of the legs, backs and arms generally leads to an eventual evolution to segmented-force application, as happened with Courtney's **Extended Body Swing Style**, and to *Kernschlag*, as with late, inbred **English Orthodoxy** and its descendants,[1447] and also with **Fairbairnism** as it morphed into the excesses of the **Jesus Style**.[1448]

As already noted, the issue of *Kernschlag* versus *Schubschlag* is one of the three issues in history which continues to divide coaches down to the present.

Force Curve Research Today

A great deal of progress has been made with rowing force curves in the hundred years since Charles Courtney performed his experiment. Eastern Bloc teams made use of templates to train and help select composite crews as early as the 1970s. Now the practice is found throughout Europe and the Americas.

Valery Kleshnev (*www.biorow.com*) makes available an elaborate system which places sensors on the oarlocks of a boat and elsewhere and records force curves and a number of other biometric parameters.

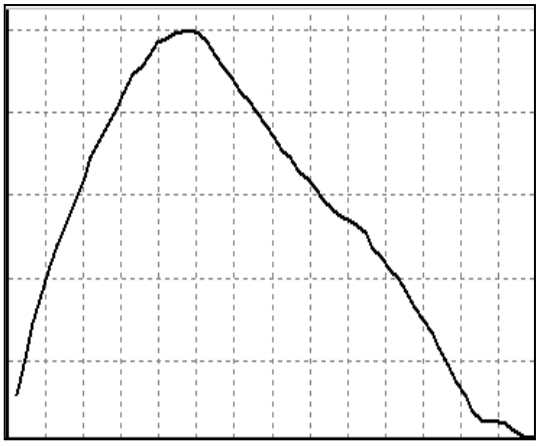
[1445] Mallory, *Optimal Force Application*, p. 6

[1446] Mallory, *Secret*, p. 197

[1447] See Chapter 17.

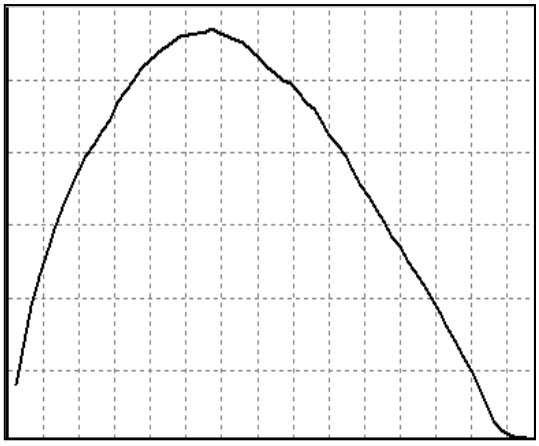
[1448] See Chapter 20.

AMERICAN ROWING COMES OF AGE



Cas Rekers, Rowperfect

Marjolein Rekers, 1995
Cas Rekers' daughter before training
with the Rowperfect interface.



Cas Rekers, Rowperfect

Marjolein Rekers, 2003
Cas Rekers' daughter after training
with the Rowperfect interface.

For a decade, the ergometers of **Concept2** (*www.concept2.com*), the most widely-used in the world, have come with an elementary but useful force/time curve function on their standard monitors.

Developed by **Paul Smith** and **Mike Niezgoda**, **ErgMonitor™** is an inexpensive downloadable software program which generates and records much more detailed force curves using the standard Concept2 monitor output jack. This product, available through PS Sport (*www.ps-sport.net*), puts force curves within the reach of every individual and team.

In December, 1988, Dutch chemical engineer **Cas Rekers** patented an innovative new rowing machine for his daughter, Marjolein, to train on. The **Rowperfect** rowing simulator has its flywheel and carriage as well as the rower's seat freely moving along its main longitudinal structural bar, thus simulating the transfer of mass fore and aft during rowing in a shell on the water.

Along with his rowing simulator, in 1992 Rekers also introduced a computer interface which generates and records force curves on the Rowperfect machine.

He gathered force curves of notable rowers from that time until his death in 2010, and his data confirms that force curves can take on almost infinite variety. Like Courtney and the GDR scientists before him, Cas Rekers came to the conclusion that the parabola is the optimal force curve for boat moving.

The experience of his daughter is a clear example of how an athlete can fundamentally change his or her force curve toward a chosen ideal shape using the real-time feedback of watching a computer monitor while rowing. Marjolein started with a *Kernschlag* two-part pullthrough. She finished with perhaps the smoothest, most organic *Kernschlag* curve I have seen so far.

This book will make frequent use of force curves whenever they are available as we attempt to better understand the impact of specific rowing techniques on boat moving.

Limitations

A word of warning. The force curves which illustrate this book come from various sources and were generated by various systems over a period of decades and under myriad different test conditions. They have been normalized so they all have similar proportions despite the size, gender, age and/or effort level of the subjects.

Bulgarian national coaches have discovered that curves obtained on ergometers are generally similar to those obtained in boats,[1449] but different systems can use different parameters, power instead of force[1450] on the *y*-axis, time instead of distance[1451] on the *x*-axis. This can make extremely detailed comparisons problematic and potentially misleading.

Likewise, because any athlete will unconsciously adapt to conditions, a curve generated on a stationary rowing simulator like the Concept2 or Gjessing ergometers can have slightly different characteristics from one generated in a boat or on a dynamic rowing simulator like the Rowperfect or the Concept2 on slides. I have been reminded of this potential problem by **Cas Rekers** and by **Harry Parker**, both of whom have formidable amounts of experience.

Nevertheless, it is my own experience over more than a quarter century of study and testing that general patterns and shapes carry across the various test setups. They also tend to remain more or less constant over time, even after decades of inactivity. Many of the curves in this book were recorded between 2008 and 2010, in some cases half a century or more after the athletes had originally left their marks on rowing history.

American coach **Allen Rosenberg**[1452] possesses one of the most discriminating eyes in rowing history. He has picked Olympic and World Champion eights on sight alone.

Rosenberg: "I am intrigued with your thoughts on the force curves of various rowers at later stages of their lives. I have often felt that I could recognize a rower by his work product, even after years have passed, by comparing what I remember as to what I 'now' see. I do believe the mental images formed years before to define the sources do *not* change."[1453]

For the purposes of this evolutionary history, perhaps that is sufficient to allow force curve data available or obtainable today to contribute meaningfully to our quest for a broader understanding of force application during the past and down through the years.

[1449] Christov et al, p. 22
[1450] See Chapter 168.
[1451] Monitors on recent Concept2 ergometers (Models C, D and E) use time. The ErgMonitor and Rowperfect systems use distance.

[1452] See Chapter 107 ff.
[1453] Rosenberg, personal correspondence, 2009

39. Courtney's Mature Technique

The True Origin of the Conibear Stroke

Young, *Courtney and Cornell Rowing*

Cornell University Crews
Practicing at Poughkeepsie
+10°, +30° to -30°, 0-10, 0-10 0-10, *Schubschlag*
Arms, backs and legs moved concurrently.
Rhythm was Fairbairnesque acceleration entry-to-release

Crowther: "Courtney, after three years of disaster, had abandoned the new stroke [his Extended Body Swing Style, adopted after their 1895 Henley trip] and was teaching a stroke about the same as that which Pennsylvania rowed. The long swing was cut down and the slide lengthened so that the legs might be used to full advantage."[1454]

It was interesting that Courtney apparently had chosen not to directly copy the technique that Ellis Ward had been teaching at Penn and which had won them three consecutive IRAs. Instead, he had to independently and scientifically derive his new approach through force curve analysis.

Nevertheless, his experiment took him past Ward's leg-back concurrency to leg-back-arms concurrency, and with his newfound insight, Cornell won the next three Poughkeepsie Regattas and eleven of the next seventeen.

Courtney's force curve conclusions represented an independent discovery of the boat moving secret of his old nemesis, **Ned Hanlan**,[1455] and of the *Schubschlag* force application protocol first put forward in writing by **T.S. Egan**[1456] and would soon be repeated by **Steve Fairbairn** as a coach.[1457] Courtney had joined what was fast becoming the Classical Technique main branch of the evolutionary tree of rowing technique.

[1454] Crowther, p. 135

[1455] See Chapter 13.
[1456] See Chapter 6.
[1457] See Chapter 19.

The Enduring Courtney Stroke

When asked what technique he taught at Cornell, **Charles Courtney** replied, "There is no such thing as a Courtney Stroke; the only stroke that wins is the **'hard pull' stroke**, where every man pulls each stroke steady and hard throughout, and continues to do so from the time the word 'Go!' is given until the course is covered."[1458]

This was Courtney the curmudgeon speaking. The real Courtney was a remarkably kind, thoughtful and innovative coach. A decade before they became standard equipment on Pocock shells, he experimented with rolling axles on his sliding seats[1459] and with sliding riggers, designed to keep the mass of his oarsmen's bodies from having to move up and down the keel of the shell. And like Bob Cook, he used photography to analyze and teach technique.[1460]

Slide length ended up moderate by modern standards, and erect posture was emphasized with +30° body angle forward at the entry. "The back should be straight, as the lungs are then enabled to do their work more easily and satisfactorily, and there is no unnecessary strain on the abdominal muscles. The bend should be at the hips, and with no kink in the back."[1461]

Correct posture can be seen in the posed photos of the 1888 and 1892 crews which accompany earlier chapters of this book, but the limited body angle shown would have been the position taken prior to a racing start.

Recovery

Crowther: "They could row at a pace that often went under 30, but whatever the stroke, all the crews nursed their recovery, and the slide was slow.

"There were no pronounced features. The catch was hard but not evident – merely a steady application of power from the moment that the oar touched the water [*Schubschlag*] - and if any one thing was distinctive, it was the **recovery**, which was very slow."[1462]

Courtney described the recovery he coached as follows: "The slide should be started at first rapidly, but gradually slowed up before the finish in order not to have the weight of the oarsmen brought up too suddenly on the stretcher."[1463]

This was a holdover from his original sculling technique and from his Pump-Handle and Extended Body Swing Styles.

Concurrency

The concurrent use of the legs and back would also spread. Cornell rowing historian **Charles Van Patten Young**: "Combining modified [back] swing with the leg drive and recovery, he developed a stroke which combined to the nicest degree the maximum power and speed with the minimum of effort, and which has gradually been adopted by every successful coach in the country."[1464]

Origin of the Conibear Stroke

Looking back from the perspective of the 1950s, British rowing appreciated "two race-winning characteristics of the American style – the lightning recovery of the hands leading to extreme steadiness forward, and the use of legs throughout the stroke in the water,"[1465] the first innovation having originated at Cornell and the second having

[1458] Courtney, qtd. by Young, p. 53
[1459] Look, pp. 110-1
[1460] Mendenhall, *Coaches*, Ch. III, p. 8
[1461] Courtney, qtd. By Look, p. 144
[1462] Crowther, p. 136
[1463] Qtd. by Kelley, pp. 217-8
[1464] Young, qtd. by Look, pp. 131-2
[1465] Haig-Thomas & Nicholson, p. 26

originated at Penn in the 1890s and independently discovered at Cornell in 1900.

This American stroke would dominate world rowing for the following half-century.

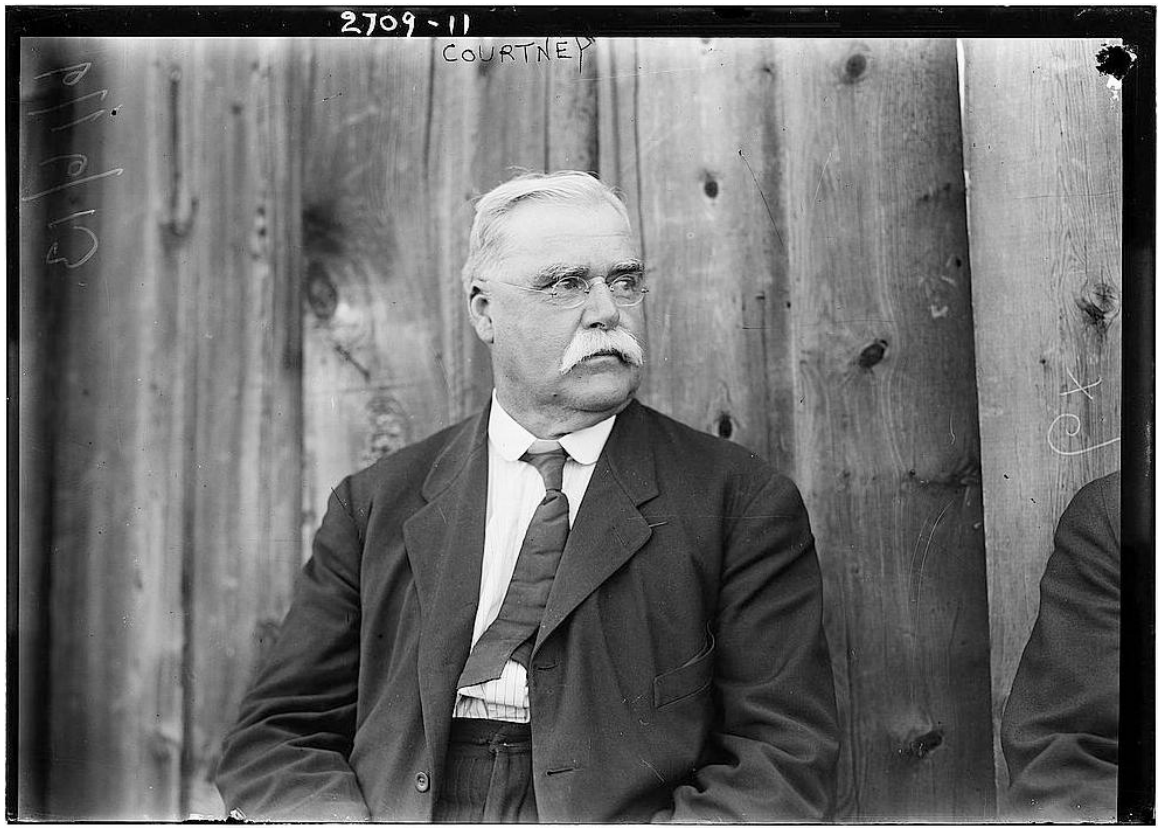
Over the ensuing decades, the name of **Hiram Conibear**[1466] of the University of Washington came to be identified with the American version of Classical Technique. Today, almost nobody remembers that it began at the University of Pennsylvania under Ellis Ward, that it was refined and improved at Cornell University under Charles Courtney, and that it was Courtney himself who taught it to Conibear.[1467]

[1466] See Chapter 44.

[1467] Ibid.

40. Charles Courtney: R.I.P.

1849 - 1920



George Grantham Bain Collection (Library of Congress) Prints and Photographs Division (LC-B2-2709-11)

Charles Courtney

America's Greatest Coach Ever?

Courtney was a true revolutionary, the second American coach in history after Ward to teach concurrency, but more importantly, unlike Ward, Courtney was the most successful and the most influential American coach of his era, always freely offering advice and sharing his opinions, often loaning equipment to other crews in need.

In 1894, he ran a two-week clinic for the **Harvard** team.

In 1912, he took **Stanford** under his wing at Poughkeepsie, lending them a boat and giving them coaching.

In 1913, **Syracuse** won the Poughkeepsie Regatta with Cornell second, and the Orangemen were rowing in a shell

loaned to them for the year by Charles Courtney after the Syracuse boathouse had been destroyed by a tornado.

During the early 20th Century, while Harvard and Yale focused on racing each other in New London, Cornell, rowing their concurrent *Schubschlag* Classical Technique, ended up winning eleven of the next seventeen Poughkeepsie Championships.

Courtney's career record of fourteen total IRA wins[1468] may never be equaled. In the century since, only **Steve Gladstone**, coach at Cal and Brown and Cal again, has won as many as eleven IRA titles.[1469]

Under the dateline July 17, 1920, ***The New York Times*** reported: "Charles E. Courtney, the most noted of American rowing coaches, and affectionately known among Cornell men as the 'Old Man,' died at noon today of a stroke of apoplexy."[1470]

He had been out rowing on his beloved Cayuga Lake when he was stricken.

"The Cornell world mourns the loss of one of the greatest inspirational teachers it has ever had the good fortune to possess. We recall none whose record is more brilliant in any line.

"The Old Man was truly an inspirational teacher. Had his field been one of the orthodox educational subjects and his ability as great in that other field, educators of all types would have cheerfully admitted the comparison. Courtney's record is not wholly one of victories over competitors. It is also one of victories over the handicaps of his particular sport.

"There are a few things about rowing that are entrancing; the rhythm of a shell, the catch, the pull and slow recovery, eight bodies swinging in perfect harmony, eight pairs of legs alternately driving and holding back with the regularity of a clock, and eight backs swaying with a precision of which there is no equal outside of a varsity eight. These rhythms are attractive, however, only to the finished oarsmen, the eight men who sit in the boat each year.

"For the novice and the dub there are the sore hands, the checking of the boat, the yapping of the coxswain, the boils, the grinding, grueling ten or fourteen-mile pulls, the late suppers and the training rules. No grandstands cheer the crews. None of the glory that makes football stand out as more attractive than academic study entices the men to the rowing machines. When the crews come home from Poughkeepsie, even the student body has gone.

"With opportunity of this drab sort, Mr. Courtney took his men, with the sheer force of his personality enwrapped them with the spell of his dominating character, and received from them the best they had in grit, strength, skill and obedience. Could this performance be duplicated in the classroom, the unattractive and monotonous made a living thing, and the tedious converted by inspiration into the most coveted of treasures, then the problems of education would vanish, as they have vanished whenever they have been handled by a genius of the Old Man's caliber. Courtney has made himself, his art and his record a treasured and integral part of Cornell University."[1471]

[1468] He also won nine Rowing Association of American Colleges regattas in the twelve years prior to the founding of the IRA.

[1469] Starting in 2011, Gladstone will attempt to add to his count as coach of Yale University.

[1470] C.E. Courtney Dies From Shock in Boat, *The New York Times*, July 18, 1920

[1471] Qtd. by Young, pp. 102-3

THE SPORT OF ROWING

Charles E. Courtney

In future when the windless lake is still,
And sounds of evening bells float from the hill,

When skimming shells in straining practice fly
Up past the western shore, with coxswain's cry

And rowlock's rhythmic throb and wash of oar,
"The Old Man" in his launch will come no more.

He dwelt among us without blame or fear,
And trained his oarsmen many a jealous year;

He taught them manhood also; how to meet
Their fate, unspoiled by triumph or defeat.

"Row hard, and may the best crew win," he said;
And victory hovered ever 'round his head.

Alas, the crews, the lake, the changing shore
Shall see "The Old Man" in his launch no more.

- Albert W. Smith[1472]

[1472] Young, Dedication

41. The Ten Eycks of Syracuse

Jim and Ned – Orange Tales

The only coach ever to win multiple Poughkeepsie Regattas against a Charles Courtney crew during his mature era was **James A. Ten Eyck** (1851-1938) of Syracuse University.

Like Courtney, Ten Eyck was another American professional sculler who in later life became a college coach.

He was born "in Tompkins Cove, near Krum Elbow,[1473] the start of the four-mile race of the Poughkeepsie Regatta."[1474] He belonged "to an old Dutch family of watermen,[1475] whose ancestors had come to the country nearly two centuries before."[1476]

James' grandfather was **David Ten Eyck**, a ferryman between Verplank's Point and Stony Point on the Hudson shortly after the Revolutionary War and who began rowing competitively as early as 1784. James' father, **James B. Ten Eyck**, known as "Captain Jim," had been undefeated rowing champion of the Hudson.[1477]

Alama, *Mark of the Oarsman*

Jim Ten Eyck

In 1873, a race report in ***The New York Clipper*** included the following description: "James A. Ten Eyck – 22 years, 5 feet, 9¾ inches; 138 pounds; chest 37 inches; biceps arm 11 inches; forearm 10½ inches [That's big!]. Cedar boat. Jas. W. Husted, 30 feet, 5 inches long; 10½ inch beam, 5 inches deep; 30 pounds; sliding seat built by Thos. Fearon, Yonkers, N.Y. Sculls 10 feet, 1 inch long; weight 7 pounds. Costume – White

[1473] originally Kromme Elbourg, "bent elbow" in Dutch.
[1474] Taylor, p. 73
[1475] Ten Eyck means "by the oak."
[1476] Kelley, p. 31
[1477] Taylor, p. 44

shirt, blue flannel knee breeches, scarlet silk handkerchief around head."[1478]

It seems that 19th Century rowing fans were as statistics-obsessed as 20th Century baseball fans.

From the 1870s into the 1890s, Ten Eyck often rowed against the peerless **Ned Hanlan**, and they became close friends. Jim named his first son after Ned, and when Hanlan returned to North America from his years in Great Britain, Jim coached him.

Prior to taking over at Syracuse in 1903 at the age of 52, Ten Eyck had coached at Duluth Rowing Club and at the United States Naval Academy.

Apparently, he was quite a character. He once told a very young Stan Pocock how he selected a crew.

Pocock: "He simply went in the shower room early in the season and picked out the eight men with the biggest [assets].'"[1479]

His 1904 Syracuse crew won at Poughkeepsie. They won again in 1908, 1913, 1916 and 1920.

Racing in Poughkeepsie was a bit of a homecoming for Ten Eyck. "As a young man, he had earned his living as a fisherman on the Hudson, and he knew the river and the vagaries of its currents like a book. Should a delayed start appear advantageous, he could come up with any number of reasons why his crew couldn't get to the starting line.

"The Hudson River is tidal, and the stage of the tide has varying effects on the current in the various lanes. His ruses varied depending on which lanes his crews had chanced to draw.

Alama, *Mark of the Oarsman*

The Ten Eyck Trophy

"It's probable that those tactics won few races for his crews, but they effectively annoyed everyone else."[1480]

Wisconsin rowing historian **Bradley Taylor**: "During his thirty-four-year head coaching career (1903-37), Ten Eyck's Syracuse crews at Poughkeepsie had won five varsity eight, four second varsity eight and seven freshman eight titles."[1481]

Jim Ten Eyck died in 1938 at the age of 87. His "body was cremated and the ashes strewn in the twilight of an evening on his beloved Hudson River."[1482]

Today his name is known to every American college oarsman. The team award at the IRA is the **Jim Ten Eyck Memorial Trophy**.

[1478] *The New York Clipper*, 1873, qtd. by Glendon, p. 69
[1479] S. Pocock, p. 190
[1480] S. Pocock, pp. 144-5
[1481] Taylor, p. 73
[1482] Ibid.

AMERICAN ROWING COMES OF AGE

British Pathé Newsreel, 690-11, The American Varsity Boat Race

1927 Syracuse University Varsity Eight
1927 Poughkeepsie Regatta Sixth Place
Coxswain **Howard Tolley**,
Stroke **James Frink** 5'11" 180cm 185lb. 84kg, 7 **Richard Lawrence** 6'3" 191cm 185lb. 84kg,
6 **Joseph Frawley** 6'0" 183cm 180lb. 82kg, 5 **Adolf Dieck** 6'4" 193cm 189lb. 86kg,
4 **John Whiteside** 6'1" 185cm 165lb. 75kg, 3 **John Laidlaw** 6'1" 185cm 172lb. 78kg,
2 **William Brogan** 5'11½" 182cm 182lb. 83kg, Bow **G. Merle Nelson** 5'11" 180cm 165lb. 75kg
-10°, +45° to -35°, 0-9, 0-9, 0-10, ferryman's finish
Rhythm was Fairbairnesque acceleration entry-to-release with strong send.

Only when Jim died was he replaced as Syracuse coach by his 59-year-old son, **Ned Hanlan Ten Eyck** (1879-1958), who continued coaching Syracuse through 1949.

Technique

Given Syracuse's relative proximity to the Cornell campus, and given the extremely generous nature of Charles Courtney, who lent boats to Syracuse on several occasions, and given the connections both coaches had to 19th Century professional sculling in general and to Ned Hanlan in particular, it should not be surprising to find that James Ten Eyck taught his oarsmen a **Classical Technique** similar to that of Charles Courtney, namely complete concurrency of legs, backs and arms with the intention of strongly accelerating the boat from entry to release.

Syracuse historian **Malcolm R. Alama** describes it as "Ten Eyck's sculling stroke, with its easy catch and bladewhipping follow-through,"[1483] another elegant description of *Schubschlag*.

The major difference between the two techniques was that whereas Cornell leaned forward +30° at the entry, Ten Eyck had his men lean forward a full +45°,[1484] as much as 19th Century English Orthodox crews.

Jim Ten Eyck: "At the 'catch' or start of the stroke, the oarsman is seated in the stern end of his slide, body arched down between his knees."[1485]

The extreme body angle forward required the Syracuse oarsmen to aggressively lift their bodies up toward vertical at the commencement of the stroke. Often the chin would lift as well.

[1483] Alama, p. 199
[1484] 1927 Poughkeepsie Regatta, *www.BritishPathé.com*
[1485] J. Ten Eyck, qtd. by Alama, p. 63

Coaching Philosophy

Jim Ten Eyck: "I let my men keep their peculiarities in a boat to a greater extent than most coaches. My idea of that is to allow greater harmony by letting every man do the thing in his own way – so long as it doesn't interfere with the others."[1486]

This is an approach which echoed **Steve Fairbairn** years before Fairbairn began his writing and coaching.[1487]

At the end of the stroke, Ten Eyck coached his crews to lay back -35°, the same as Cornell post-1900. This gave Syracuse an 80° body arc to Cornell's 60°.

Ten Eyck called his technique the "**get-there-stroke**," and though his crews displayed beautiful, coordinated swing, he gave credit for Syracuse success to the athletes and not to the technique.

Jim Ten Eyck: "There's no secret to it, nor any mystery. It isn't the stroke, it's the man."[1488]

Nevertheless, the Ten Eyck Stroke was indeed a pleasure to watch, looking almost modern to the 21st Century eye familiar with crews such as Mike Spracklen's 2002 and 2003 World Champion and 2008 Olympic Champion Canadian men's eights.[1489]

You can see for yourself in the **British Pathé Newsreel** coverage of the 1927 Poughkeepsie race,[1490] where Syracuse placed fifth. They and Cornell, who eventually finished sixth, were fighting a vicious tide close to the western shore in Lanes 1 and 2 and could not compete that year with Columbia and Washington, who

[1486] J. Ten Eyck, qtd. by Alama, p. 12
[1487] See Chapter 19.
[1488] J. Ten Eyck, qtd. by Alama, p. 118
[1489] See Chapters 151 and 159.
[1490] *1927 Poughkeepsie Regatta*, *www.BritishPathé.com*

were rowing in slack water on the eastern side of the course.[1491]

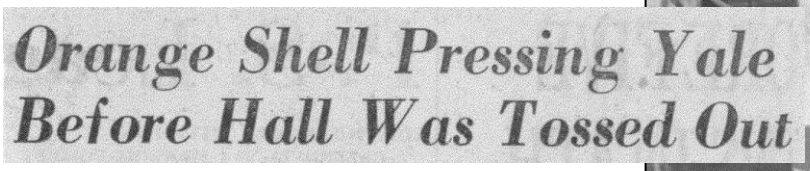
The end of the Syracuse pullthrough included a ferryman's finish.

Rowing Tradition

The American collegiate rowing tradition of betting shirts apparently was begun by Syracuse coxswain **Frank Eldridge** at Poughkeepsie in 1908.

Taylor: "Eldridge strutted over to the Columbia coxswain before the varsity race and bet his rowing jersey that Syracuse, despite a recent accident damaging their shell, would still win. When Syracuse won and not only the Columbia crew but all the other losing crews offered their shirts to their Syracuse counterparts, the 'betting of shirts' tradition had begun."[1492]

Rowing Legend

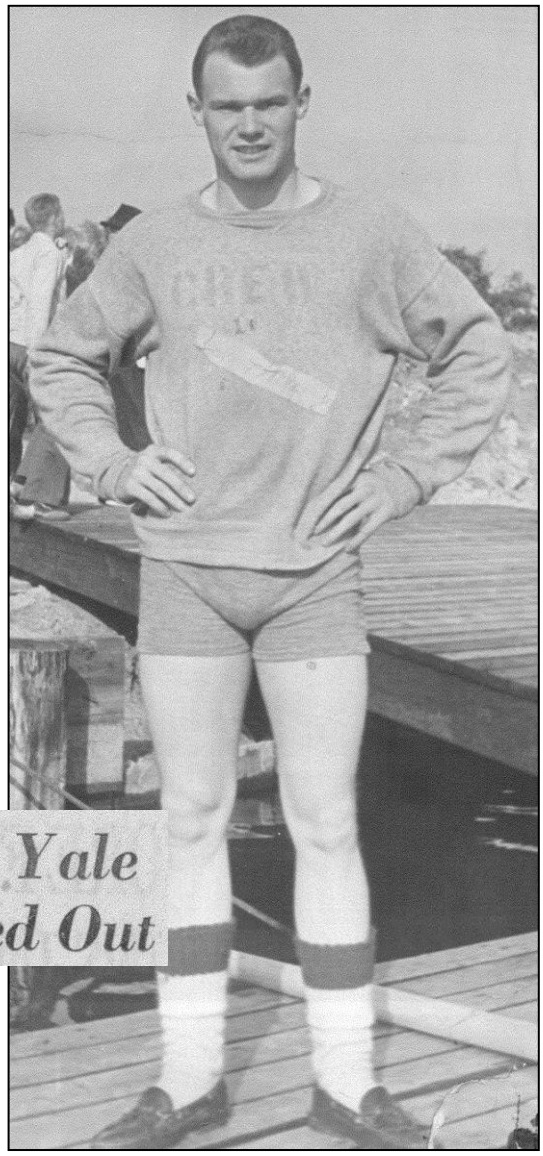

Orange Shell Pressing Yale
Before Hall Was Tossed Out

Syracuse Herald-Journal, May 15, 1939

In rowing history, there are any number of apocryphal stories which have no basis in fact, like the Japanese eight that rowed 2,000 meters at 50 strokes per minute, and then each one of them promptly dropped dead of heart attacks.

But there is one story which *is* true. And it has been every rower's worst nightmare for as long as boats and oars have existed.

And for that long it has seemed that sometimes a rower's greatest enemy is God Himself.



Lynda Bissett

Bill Hall, Syracuse University

In 1851 in ***Moby Dick***, Herman Melville described a coxswain in a race to a whale between whaleboats, writing, "he would have proved the victor in this race, had not a righteous judgment descended upon him in a crab which caught the blade of his midship oarsman."[1493]

[1491] Alama, p. 189
[1492] Taylor, p. 48
[1493] Melville, Chapter 81

Not human error. Instead, "a righteous judgment!"

One of the first recorded occurrences in America[1494] of the ultimate mid-race out-of-boat experience happened at a regatta between Yale, Syracuse and MIT on May 13, 1939 on the Housatonic River in Derby, Connecticut.

Syracuse Herald-Journal: "Never before, in the knowledge of Coach Ned Ten Eyck, has an oarsman been tossed out of a boat during a race."

The young man who caught the crab was Syracuse varsity 4-seat **Bill Hall**, and it wasn't his fault. While fighting for the lead against Yale, the Syracuse coxswain cut the turn on the dog-legged Derby course just a little too closely.

Hall's oar clipped the lane flag. He lost his grip. The blade spun round, touched the water, and in the blink of an eye Bill Hall was airborne.

While they were stopped to ensure that Bill was okay, MIT rowed by them. After receiving a wave of assurance from Bill, the remaining three ports and four starboards resumed their race in hot pursuit of the Engineers.

"Despite the handicap, Syracuse was almost even with MIT at the finish – the Elis having started back to the boathouse."

The *Syracuse Herald-Journal* reported that Hall was "chagrined" but otherwise "none the worse for his experience."[1495]

He was later moved to the 2-seat, where he could have an unimpeded view of any approaching obstacles.

When I began my research for this book, Bill Hall was in his late 80s, and his face still lit up whenever he heard the name of Ned Ten Eyck. He has since passed away.

[1494] During the 1922 dual meet between California and Washington, Cal 5-seat Beryl Howell was ejected from the shell as his crew approached the finish line. Washington had already finished. – per John Lundin, personal correspondence, 2011

[1495] *Syracuse Herald-Journal*, May 15, 1939

42. Yale Enters the 20th Century

Red Top and Gales Ferry – Guy Nickalls

Ted Washburn, *Making of a Champion*

Gales Ferry, the Yale Compound for the Yale-Harvard Race

During this period, the sojourns at **Red Top** and **Gales Ferry**, the Harvard and Yale compounds in New London, began to take on the trappings of ritual retreats,[1496] and the mystique of the Boat Race ever expanded, especially at Yale, where losing only intensified the religious aspects of the experience.

Ted Washburn, *Making of a Champion*

Red Top, the boathouse at the Harvard Compound for the Harvard-Yale Race

After **Bob Cook** began to withdraw a bit from coaching in 1898, Yale tried a number of successors, some professional and some amateur, but Cook remained an enormous presence in the minds of Yale alumni. Every loss in New London spurred calls for a return to the Cook Stroke. After attempting to hold to Cook's ideal of gentleman-amateur coaches and getting beaten repeatedly in New London, in 1913 Yale decided on "a return to the American stroke coached by a reputable

[1496] For anyone interested in learning more about the special experiences surrounding the Harvard-Yale race during the late 1970s, ***The Shell Game*** by Stephen Kiesling is required reading.

George Grantham Bain Collection (Library of Congress) Prints and Photographs Division (LC-B2-3097-1)

Guy Nickalls at Gales Ferry

older professional coach and not by young amateurs."[1497]

In fact, they returned to Cook's original source by hiring a famous Brit, **Guy Nickalls**,[1498] a member of the Leander eight which had defeated Yale at Henley in 1896.

Guy Nickalls at Yale

When Guy Nickalls followed his brother, Vivian, the coach at Penn, to America and accepted the offer to coach Yale University, the Eli had not won a New London race in six years.[1499] He did not have a great deal of talent to work with in the spring of **1914**, but he worked them hard.

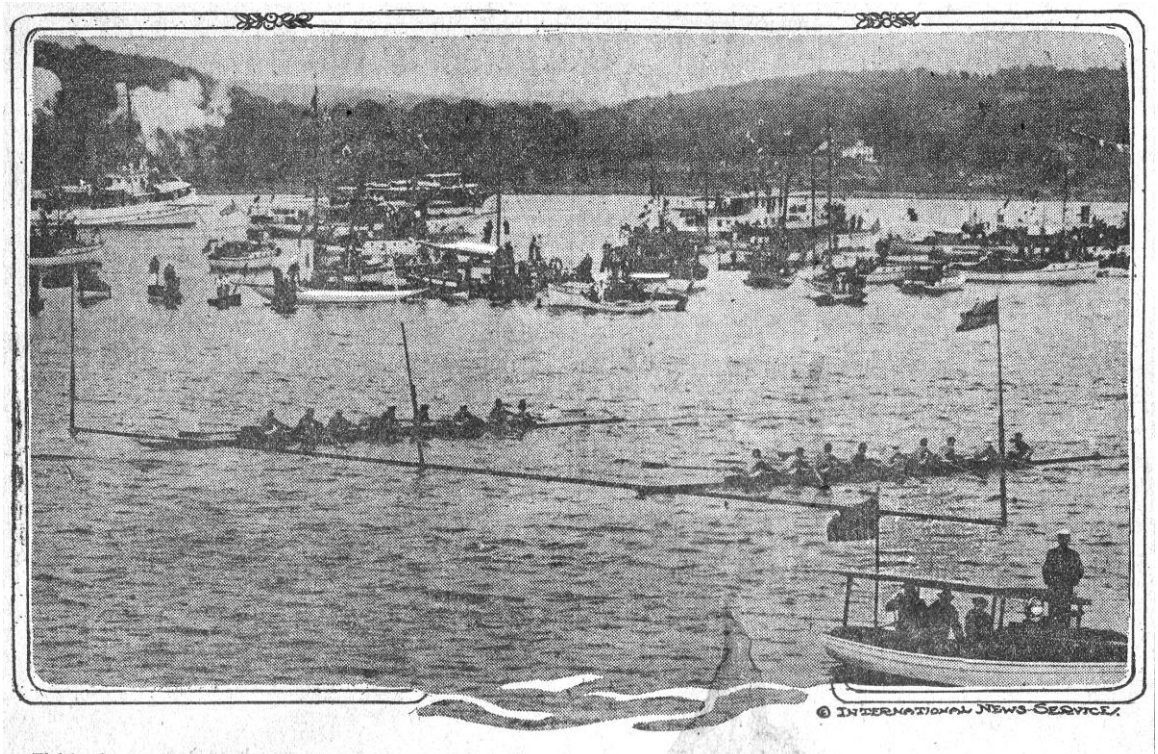
Mendenhall: "Mileage, six to twelve miles a day, was inexorable, regardless of ice on the riggers at twenty degrees Fahrenheit. Once each week, the first two boats raced for twenty minutes or four miles, rating 28-30-32."[1500]

The technique he taught was **Classical**, as described in Chapter 13.

That spring, they lost to Cornell by five lengths, but the season would be judged solely on the race with Harvard . . . and it

[1497] Mendenhall, *Harvard-Yale*, p. 280
[1498] See Chapter 24.
[1499] Mendenhall, op.cit, p. 280
[1500] Ibid, p. 283

AMERICAN ROWING COMES OF AGE



Finish of sensational first varsity race of the annual Yale-Harvard regatta at New London-on-the-Thames June 19, when the Yale varsity defeated Harvard by a scant few inches. The victorious Yale crew is shown in the foreground. The photograph was snapped just as the crew flashed past the finish stakes at top speed. (Copyright by International News Service.)

Thomas E. Weil Collection

San Francisco Examiner, June 25, 1914

turned out to be, in Nickalls' words, "the finest four mile race I have ever seen."[1501]

Mendenhall: "Among the 6,000 spectators on the two trains that moved upriver at 7:30 that evening was J.P. Morgan, Jr. in his private car.

"Yale went off to an early lead of a few feet, but the two crews were overlapping over the next four miles. For the first three miles, Yale led, at times by almost a length, then by only a seat or two. Yale rated higher at 30-32. Harvard was content to stay at 30 or under. Over the next mile, Harvard started to move through and led by a canvas with half a mile to go."[1502]

Nickalls: "Appleton, who stroked [Yale], had it in his power to win the race easily. After the third mile, he was leading by quite a lot, and, instead of widening the gap there and then, he thought he could play with them. Half a mile from home, Harvard led for the first time, and now McHenry took command of the boat. From 7 he called for a spurt, took the matter out of Appleton's hands and got the Yale crew going again, made back the lost ground, and drove the crew over the line a winner by three feet."[1503]

Mendenhall: "For Yale, such a victory triggered the first old-fashioned celebration in New Haven for at least fifteen years.

"'The parade from the railroad station to the campus with the band and red fire trucks,

[1501] Nickalls, *Life*, p. 237
[1502] Mendenhall, op.cit, p. 286
[1503] Nickalls, op.cit., p. 237

the banquet and the speeches and the cheering.'

"Only time would tell whether Nickalls had done anything more than save his job."[1504]

Nickalls' **1915** crew beat Cornell by a third of a length and Princeton by three lengths on Lake Carnegie, beat Penn on the Schuylkill by two and a half lengths in record time and beat Harvard on the Thames by eight and a half lengths in upstream record time.

In **1916**, Harvard won, and in **1917** Nickalls returned to Great Britain to defend his country during World War I. He returned for **1920** and **1921** before he was terminated.

Nickalls' greatest contribution to Yale crew was moving the team from New Haven harbor to the Housatonic River above the dam at Derby, where it continues today.

The Crew Song

Now when Willie was still an obtuse
Montesorian,
Having heard of Yale victories early Victorian,
He was mad for that oarsmanship ichthyosaurian
Of the Yale University Crew.

Though his mother regarded his aims as
chimerical,
And referred to his efforts in accents satirical,
Little Willie would chant in apostrophies lyrical
To the Yale University Crew.

In a voice that might rival Apollo's
He would state his intentions as follows:
I want to row on the crew, Mama,
That's the thing I want to do, Mama;
To be known throughout Yale as I walk about it –
Get a boil on my tail and then talk about it.

I'd like to be a big bloke, Mama,
And learn that new Argentine stroke, Mama;
You'll see your slim son putting crimps in the
Crimson,
When I row on the varsity –
brek-ek-co-ex co-ex, brek-ek-co-ex co-ex,
brek-ek-co-ex co-ex, brek-ek-co-ex,
When I row on the varsity crew.

Cole Porter, Yale '13

[1504] Mendenhall, op.cit, p. 286

43. Harvard Goes to Henley

Dad Vail – Jim Wray – Bob Herrick – 1916 Grand Challenge Cup

In 1898, the year that Bob Cook began to withdraw from coaching at Yale, Harvard Coach **Rudie Lehmann** also returned to Britain. By the turn of the century, Harvard was relying more and more on **Jim Wray** and **Harry Vail**, two professionals purportedly employed as riggers for the boats in the two Harvard boathouses, Weld and Newell.

Dad Vail

Born in Gagetown, New Brunswick, Canada around 1861, **Harry Emerson "Dad" Vail** [1861-1928] came from a long line of boatmen. From the early 1800s, the Vail family rowed cargo over the one-mile narrow stretch of Gagetown Creek between the Gagetown wharf and the St. John River.

Vail was a long-time acquaintance of both Jim Ten Eyck and Charles Courtney, as all three had been professional scullers during the 1880s. The lore in Gagetown was that Vail lost only one race in his lifetime – probably to Jim Ten Eyck – and that he avenged that loss.

Vail had rowed on the Harvard crew from 1891 to 1893 and was captain his senior year at age thirty-two. (College eligibility rules would not be clarified until 1906.) Following stints coaching at the Neptune Rowing Club in St. John, New Brunswick, Ariel Boat Club in Baltimore, Maryland and Georgetown Prep in Washington, D.C., Vail would serve as boatman and unofficial coach at Harvard for seven years.[1505]

Glendon

Dad Vail

Today Vail is best remembered as the coach of the University of Wisconsin from

[1505] Taylor, p. 50

1911 to 1928[1506] and as namesake of the annual U.S. small college national championship regatta held for most of the 20th Century in Philadelphia.

Jim Wray

Thomas E. Weil Collection

Jim Wray in 1929

The New York Times: "As a youth in Australia, **Jim Wray** [1871-1954] made his living as a fisherman in rowboats, and he was noted as the strongest of the oarsmen in the fishing fleet about his home. Naturally there were races, and he won them all, and by such wide margins that his reputation spread.

"There followed a series of sculling triumphs in Australia, England and the United States.

"In 1905 he was in Boston, sculling on the Charles River, ready for any sort of a race, when Harvard, which was then feeling the lack of winning crews, turned to him for guidance."[1507]

Mendenhall: "[Wray began coaching] the varsity only on assignment by the captain, thus leaving 'the University wholly free to have at any time a professional or an amateur system as policy dictated.'"[1508]

His teams dominated Yale for the next decade.

Mendenhall: "Neither Wray nor Harvard oarsman had ever acquired the fixation about the Yale race that Bob Cook had bequeathed to Yale. Where a broader rivalry on the water would lead Harvard was epitomized in the 1914 season."[1509]

The 1914 Season

That spring, Wray had two good eights and was having trouble choosing his Varsity.

In April, his Jayvee beat their counterparts from Annapolis in the same time the Navy Varsity posted in beating the Crimson Varsity.

Meanwhile, at the **Union Boat Club** down the Charles River from the Harvard boathouses, an eight made up of Harvard graduates announced that they were going to enter the Grand Challenge Cup at the Henley Royal Regatta in England. In mid-May, Union entered the **American Henley Regatta** in Philadelphia.

The American Henley had a race for college second eights, and Harvard won it over Yale, Penn, Navy and Princeton. Two hours later, they entered the Stewards' Cup, the premier race for eights, and beat Union's Henley-bound crew by five feet.

[1506] See Chapter 43.

[1507] James Wray, 83, Ex-Cornell Coach, *The New York Times*, December 28, 1954

[1508] Mendenhall, *Harvard-Yale*, p. 252

[1509] Ibid, p. 281

George Grantham Bain Collection (Library of Congress) Prints and Photographs Division (LC-B2-3096-5)

1914 Harvard University Second Varsity Eight
in New London

Quickly, a plan was formulated to send the Harvard Jayvee to England as well.

From the perspective of the 21st Century, one might ask why on Earth would Harvard send their *Jayvee* and not their Varsity to Henley, the absolute pinnacle of rowing during that time. For the same reason that for many years Harvard and Yale both skipped the IRA in order to focus on the Harvard-Yale race in New London. We will discover in future chapters that for many years even the Olympics took a back seat to their dual meet in the eyes of Harvard and Yale alumni.[1510]

Wray was still playing musical boats well into June. Finally on June 10, "the Varsity was able to beat the Jayvee with six sophomores by about six feet over two miles in fast time."[1511] The result was used as an excuse to end the competition and freeze the lineups.

The Boat Race

The Yale-Harvard Race took place nine days later. The Yale viewpoint was presented in Chapter 42.

Mendenhall: "Wray was disgusted that his crew had been content to row so low and let Yale set the pace."[1512]

[1510] See Chapters 52 and 68.

[1511] Ibid, p. 286
[1512] Ibid.

Grand Challenge Cup

Ever since Ellis Ward had coached at Henley during Penn's visit thirteen years earlier, professional coaches had been unwelcome at the Royal Regatta. In order to qualify for Henley, while the Varsity continued to prepare for New London under Wray, the Jayvees trained primarily for the "mile and five" under volunteer coach Robert Herrick.[1513]

Robert F. Herrick (1866-1942), Harvard '90, a successful Boston lawyer, had been stroke of the '89 crew and captain in his senior year.[1514]

Union Boat Club had the same issue and left home their own professional coach, Bill Haines, in favor of Edward C. Storrow, Harvard '89.[1515]

After easily defeating the Yale Jayvee in New London, the Harvard second crew boarded a night train to New York and embarked the following day on the White Star ocean liner *Olympic*, its sister-ship *Titanic* already two years in its watery grave.

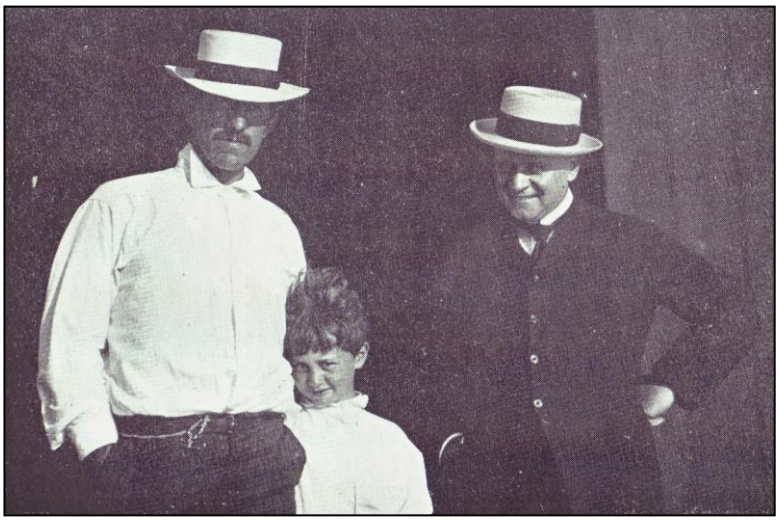
The arrival of the two American crews was big news on both sides of the ocean.

The New York Times: "The Harvard men are not on the Thames but have ideal quarters at Rosellyn, in the heart of the town. The Union Boat Club of Boston pitched camp at Sonning, three miles upstream.

"Henley already presents a festive appearance. Hotel accommodations are getting strained, and many Americans are already in evidence. The handsomest houseboat along the Henley course flies the Stars and Stripes and belongs to Alfred G. Vanderbilt, who has not yet arrived, but is expected to entertain a large party on the *Venture*, which is anchored in a choice position right at the finish and adjoining the fashionable Phyllis Court Club."[1516]

Eight crews were entered for the Grand Challenge Cup, with heats scheduled for Thursday, July 2:

Harvard University
Leander Club
Winnipeg Argonauts Rowing Club
Thames Rowing Club
Union Boat Club
London Rowing Club
Mainzer Ruder-Verein e.V.
Jesus College, Cambridge



Kelley

Bob Herrick and **Jim Wray**

Saturday, June 27: "Coaching launches were forbidden, so Bob Herrick depended on an old white horse schooled to start and stop with the crews"[1517]

[1513] Dodd, *Henley*, p. 117
[1514] Mendenhall, op.cit, p. 287
[1515] Ibid.

[1516] Harvard Draws Leander in Race, *The New York Times*, June 29, 1914
[1517] Mendenhall, op.cit, p. 288

AMERICAN ROWING COMES OF AGE

"The Harvard crew in its first spin on the river today created a good impression among the onlookers.

"Several trials over the entire course were held this evening. The Harvard crew paddled to the halfway mark in 3:43 but rowed hard over the last half, finishing in 7:16.

"The Union Boat Club crew covered the course in 7:16, doing the half in 3:32. Winnipeg also took 7:15, Jesus College 7:14, while the Leander eight made the best time, 7:08.

"The Harvard crew, which arrived late last night, looks very fit. The men are in excellent spirits and are comfortably quartered."[1518]

Sunday, June 28: "There is an air of quiet confidence about the Harvard headquarters at Henley, though members of the crew are cagey and are not making rash predictions. Capt. **Leverett Saltonstall** said he regretted today's enforced idleness, as Sunday crew practice is tabooed here, but he said to *The New York Times* correspondent:

"'We are going for a row tomorrow morning as well as in the afternoon, and also on Tuesday and Wednesday, but will only have one speed-trial each day. Saturday's trial time of 7:17 was better than we had hoped for, considering it was the first day off the boat. We expect to do considerably better before Thursday's race with the Leander crew. We saw Leander cover the course in 7:05 on Saturday.

"'The Union Boat Club say the Jesus crew [Head of the River at Cambridge[1519]] is very good, and I understand the Germans also are formidable. They say we drew the better position for our race with Leander, as there is a slight advantage to us on the inside course.

"'The distance here seems longer to us than on the course at home because here we are rowing against the stream. The narrow course will not bother us any. The members of the crew are all in good physical condition and ready to row the race of their lives. It is curious that not a single one of the fellows has been to Henley before.

"'The oarsmen are all greatly impressed with the picturesqueness of the scene, and enjoy the novelty of eating out of doors in the garden back of our house.

"'It is too bad we had to lose one day's training, though several men went punting this morning. Later we motored to Oxford and visited University, Trinity and several other of the colleges. We motored back and went to tea in a bunch as the guests of Mrs. Wilson Noble, an American married to an Englishman. We all had a bully time."[1520]

Tuesday, June 30: "Henley is prepared for a record Royal Regatta which beginning tomorrow will continue until July 4. Interest in the racing, especially in the contest for the Grand Challenge Cup, in which four countries – United States, Canada, Germany and Great Britain – will compete for the aquatic supremacy, never was so intense. A crowd surpassing even that present in 1912, when the King was among the spectators, is looked for.

"The little riverside town is already overflowing. The boats, houseboats and cottages house many Americans. Alfred G. Vanderbilt's big houseboat is again one of the attractions of the river and is more generously decorated than ever. The American Rhodes Scholars are here in force, and along the towpath the colors of many American colleges are seen.

"The Harvard and Boston crews were out morning and evening but were engaged only in starting practice. The men are

[1518] American Crews on Henley Course, *The New York Times*, June 29, 1914
[1519] Mendenhall, op.cit, p. 288
[1520] American Crews on Henley Course, *The New York Times*, June 29, 1914

Friends of Rowing History

Harvard University Second Varsity Eight
1914 Grand Challenge Cup Champion
Coxswain **Henry Kreger**,
Stroke **Charles Lund** 6'0" 183cm 169lb. 77kg, 7 **Louis Curtis** 6'3" 191cm 178lb. 81kg,
6 **David Morgan** 5'11" 180cm 173lb. 78kg, 5 **John Middendorf** 6'1" 185cm 183lb. 83kg,
4 **Harry Middendorf** 6'1" 185cm 182lb. 83kg, 3 **Henry Meyer** 6'1" 185cm 176lb. 80kg,
2 **James Talcott** 6'0" 183cm 168lb. 76kg, Bow **Leverett Saltonstall** 6'0" 183cm 165lb. 75kg

showing fine condition, the warm weather, unusual in England, favoring them.

"While the American oarsmen are hopeful, they declined to be led into predictions, but they declare that every man is prepared to do his best.

"The English experts consider the Harvard oarsmen the most dangerous crew on the river and predict that Harvard and Winnipeg, another fine crew, will come together for the final for the Grand Challenge Cup.

"The Union Boat Club, however, is expected to give a good account of themselves, and many favor them over Harvard."[1521]

Thursday, July 2: "It was a great day for the Americans. The Union Boat Club of Boston simply romped home in the heat against London Rowing Club."[1522]

"Their greater weight told against a headwind."[1523]

"The Union crew merely paddled over the course. It started with a 39 stroke and

[1521] British Fear Our Crews at Henley, *The New York Times*, July 1, 1914
[1522] American Oarsmen Win Henley Races, *The New York Times*, July 3, 1914
[1523] Mendenhall, op.cit, p. 288

eased off to 32. It did not find it necessary to again extend itself, but it hit up a faster stroke just before it crossed the line.

"Harvard had a harder race."[1524] "The Leander crew was made up mostly of men from that April's winning Cambridge Varsity"[1525]

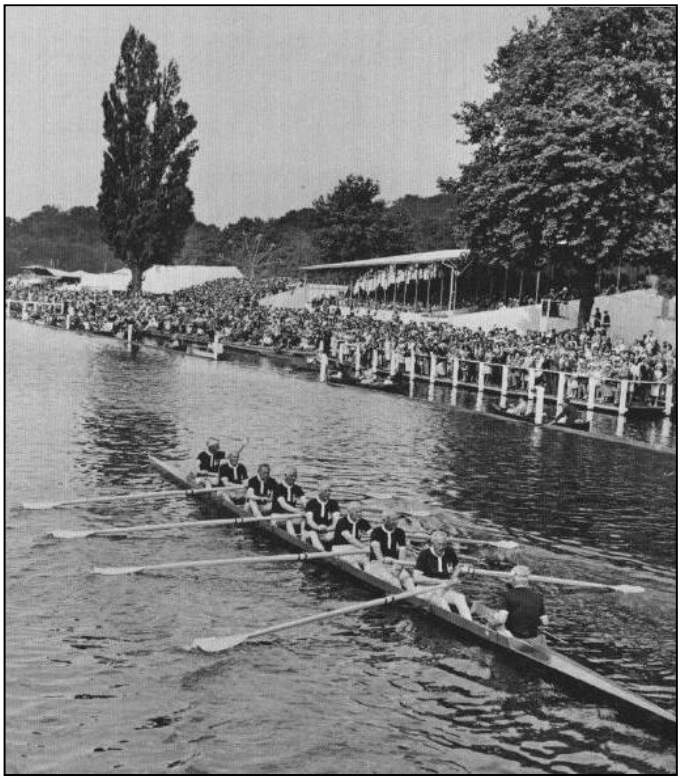
"After a tight struggle, the British crew went ahead, but suddenly it faltered, and Harvard fought forward inch by inch. At the halfway post the Americans were level, and at the three-quarters had a lead, but Leander still rowed desperately. The crowd was roaring with excitement as Leander came almost level.

"'Leander, Leander, Leander,' cried the British. 'Harvard, Harvard, Harvard,' rang out the American reply. It was a scene almost of frenzy, but the Leander crew was clean rowed out, and Harvard had enough energy left to cheer the beaten crew and follow it with their war cry – entertainment that got them a great cheer from the crowd.

"Harvard came back with applause, and as the crew landed, a pretty American girl threw her arms about the neck of one of the winners.

"Harvard, therefore, gained a double triumph, for the Union Boat Club crew is composed of Harvard graduates who rowed for their university."[1526]

"**E.D. Horsfall** of the Leanders, the defeated crew, said, 'It might have been a better race, but the result could not have been different.



Friends of Rowing History

Harvard University Second Varsity Eight
1914 Grand Challenge Cup Champion
(50th Reunion Row at Henley in 1964)
Bow **Leverett Saltonstall**, 2 **J. Talcott**, 3 **H.H. Meyer**,
4 **H.S. Middendorf**, 5 **J.W. Middendorf**,
6 **D.P. Morgan**, 7 **Louis Curtis**,
Stroke **Charles Lund**, Coxswain **H.L. Kreger**

"'We intend to make ready for next year. While the American styles give a quick stroke, this had nothing to do with the result.'"[1527]

"Winnipeg's victory over the Thames Rowing Club was fully expected, as Thames practically was the scratch crew, entered to maintain the club's tradition of competing for the Grand Challenge every year.

[1524] Harvard Now Favorite, *Associated Press*, July 2, 1914
[1525] Mendenhall, op.cit, p. 288
[1526] American Oarsmen Win Henley Races, *The New York Times*, July 3, 1914
[1527] Harvard Now Favorite, *Associated Press*, July 2, 1914

THE SPORT OF ROWING

"The last hope of England went with the defeat of Jesus College by the Mainzer Ruder-Verein of Germany. The race produced a magnificent struggle, and the manner wherein the Germans fought led the rowing men to prophesy the final will be contested between them and Harvard."[1528]

"The London papers give unstinted praise to the American successes, employing such headlines as 'An American Henley' and 'Stars and Stripes Day.'

"'The Harvard-Leander race,' says the *Pall-Mall Gazette*, 'stands out as one of the best and most thrilling performances ever witnessed on the river. It is the best showing that an American eight has yet made at Henley.'

"Anyone who doubted the deterioration of English Orthodoxy in the first decades of the 20th Century would have had to be convinced by the heats of the 1914 Grand.

"For the first time in the history of the Henley Royal Regatta, not a single English crew reached the semi-final of the Grand Challenge Cup, the most coveted prize in the world for eight-oared crews.

"All four English eights were defeated today, and the cup will be rowed for by one Canadian, one German and two American crews. Rowing experts declare this the greatest setback the English oarsmen have ever received at Henley."[1529]

There were mitigating circumstances, however. In the summer of 1914, the heavy cloud of the Great War hung over British rowing. As an example, almost a hundred members of The London Rowing Club were already on active service.[1530]

Friday, July 3: "The races were rowed in miserably wet weather with a strong wind, but the conditions did not cause either of the American crews to vary the almost perfect watermanship they had shown since their arrival here, which has called forth the admiration of English experts.

"The race between Harvard and Winnipeg, which came first, was a hard one and was rowed in the best time recorded at this year's regatta.

"Winnipeg went away at 42 strokes, while Harvard struck 38 to the minute. The Canadians gained a slight lead at the start, and at the quarter-mile were a quarter of a length in front. Harvard then came up and got the nose of their shell in front, but Winnipeg caught them again.

"At the half-mile the boats were level, but before the halfway mark was reached Harvard had pushed a little ahead again.

"The Canadians then spurted, and Harvard replied. Harvard then went in front and at the mile were leading by three-quarters of a length. They were rowing 36 to the minute and retained their advantage to the end, although the Canadians made a last great effort to overhaul them.

"On crossing the line, Harvard seemed perfectly fresh. They had maintained their form throughout and had rowed a perfect race in a drizzling rain and a strong following wind.

"On the other hand, Winnipeg showed signs of faltering after passing the half-mile post and were rowed out at the finish, when they were just able to raise a feeble reply to Harvard's cheer.

"When the second semi-final started, excitement was keen. The American spectators, stirred to enthusiasm by Harvard's victory, cheered the Unions (also Harvard oarsmen) as they left for the starting line.

[1528] American Oarsmen Win Henley Races, *The New York Times*, July 3, 1914
[1529] Harvard Now Favorite, *Associated Press*, July 2, 1914
[1530] Dodd, *Water Boiling Aft*, p. 117

AMERICAN ROWING COMES OF AGE

British Pathé Newsreel, 1765-01, Henley Regatta

1914 Harvard University Second Varsity Eight
during their 50th Reunion row at Henley
+20° to -40°, 0-10, 0-10, 0-10

"The shells got off to a good start. The Germans began with 41 strokes to the first minute against Union's 40. Boston took the lead at once and were leading by a good quarter-length at the quarter-mile.

"The Germans then started rowing higher, but Boston appeared to have taken their measure.

"At the half-mile, Boston was leading by half a length but lost a little of their advantage before the halfway mark was reached, and Boston was just leading.

"The Germans were rowing 40 strokes a minute at the three-quarter-mile mark, where Boston was a mere quarter of a length ahead and rowing a long 36.

"Boston was still a quarter-length ahead at the mile, where the Germans spurted but could not make any impression.

"Another magnificent effort by the Germans in passing the grandstand brought them closer together, but the Bostonians passed the line with only part of the bow deck in front.

"The Germans and Bostonians exchanged hearty cheers at the conclusion of the race, which found the Bostonians still fresh, while their opponents were completely rowed out.

"Two American crews tomorrow will strive over the course of one mile 550 yards to see which is the better, and that the race will be an exciting one was made evident by the time each made in gaining the final today. Both crews pulled their shells past the finish flag in seven minutes flat – a time that had been beaten on only three previous occasions.

"The only thing now left to the Englishmen is the Henley record of 6:51, in which time the race has been rowed twice. The Americans will go after this record tomorrow.

"Tomorrow will be the fifth time that foreigners have won the coveted trophy,[1531] but the first time that two crews from outside the United Kingdom have competed for it in the final.

[1531] the previous four:
1906 – Sport Nautique de Gand, Belgium
1907 – Sport Nautique de Gand, Belgium
1909 – Royale Sport Nautique de Gand, Belgium
1912 – Sydney Rowing Club, Australia

"Englishmen make no attempt to hide their chagrin at this successful invasion of a sport which, until recent years, was considered exclusively Britain's own. However, they are still getting a lot of enjoyment out of the regatta by cheering their college crews in the minor events and looking on with admiration at the superb oarsmanship of the Americans.

"They are divided in their opinion as to what will be the result of the race tomorrow between Harvard and the Union Boat Club, but they confess that the Americans are likely to provide in the contest one of the greatest thrills ever experienced at Henley.

"Both American crews tonight expressed the greatest confidence of their ability to be returned victors in tomorrow's race. The Harvard oarsmen said they would repeat their recent victory over Yale at New London and also over the crews at Philadelphia, while the Bostonians promise to prove that, but for a foul, they would have beaten the collegians in the Philadelphia regatta.

"The general opinion of the English oarsmen is that the American crews won their places in the final because their training methods were the better.

"Of the Harvard crew, a Leander oarsman said tonight, 'I have never seen a better crew. They row with perfect uniformity and are a credit to America, which has shown the world of sport what teamwork really means.

"**Guy Nickalls**, who coached the Yale crew which recently defeated Harvard, said tonight of Robert F. Herrick, coach of the Harvard second crew, and his men, 'Herrick has a great bunch of boys and has done wonders with them. He has taught them the exact English style.[1532]

"'If Herrick continues to coach, then I shall be nervous at New London next year. They have got a much better catch and swing than they had when they met Yale.

"'The Boston men are the strongest crew, but they have not got the swing, and I believe the collegians will beat them.'"[1533]

Saturday July 4: "The finals day at Henley today attracted a record attendance, and brilliant sunshine tempered with a light breeze made the weather conditions most pleasant. Hosts of American visitors made the regatta one of the best ever known, and when in the Grand Challenge Cup event the Harvard second eight passed the winning post a length and a quarter in advance of the Union Boat Club of Boston, the welkin rang with transatlantic rejoicings over the victory, which for the first time in history saw no English crew defending in the finals."[1534]

"Harvard, rowing with splendid judgment, secured the coveted trophy for the United States for the first time in its history, which dates back to 1839.

"The weather was perfect when the Union and the Harvard crews went to the starting line. The official description of the race says that Boston started at 20 strokes to the first half-minute and 39 to the minute, against Harvard's 19 and 36.

"Boston took the lead at the start, and at the top of the island was a quarter of a length ahead. Boston had a half-length lead at the quarter mile, where Harvard was striking 32 to Boston's 34.

"From that point, Harvard came up steadily, and at the half-mile, the boats were level. Harvard led by a few feet at three-quarters of a mile, where Harvard was striking 34 to Boston's 33.

[1532] As a rower and coach, Nickalls followed Fairbairn-inspired Classical, not the English Orthodox Technique. See Chapters 24 and 42.

[1533] *Associated Press*, Harvard Men in Shells, July 3, 1914

[1534] Harvard Oarsmen Capture Grand Challenge Cup, *The New York Times*, July 5, 1914

Author / Newell Boathouse, Harvard University

1914 Harvard Second Varsity Rudder

"Harvard then again went away, and at the mile was three-quarters of a length in front. Boston then spurted, striking 35, but Harvard kept away and won by a length and a quarter in 7:20.

"The Harvard men received a great cheer as they passed the stands, the English collegians attempting the Harvard yell and starting a laugh which rippled along the course.

"The Bostonians, who rowed a dogged race, were also cheered by the oarsmen along the banks, who greatly admired both crews. The men all finished fresh and cheered each other after the race was over.

"The headwind that was blowing had prevented any chance of breaking the record or even of equaling yesterday's excellent time of 7:00, but it was a fine race to watch.

"Harvard's victory is popular in England, as English oarsmen assert that it is a vindication of the English Style, which they say Chanler took from Eton to America.

[Eton old boy **Lewis Chanler** had stroked the Harvard Varsity to victory in New London in 1912.]

"At the conclusion of the regatta, Viscountess Hambleden presented the prize to the winning crew and oarsmen. Leverett Saltonstall and Louis Curtis, both of the class of 1914, received the Grand Challenge Cup on behalf of Harvard, and the crowds on houseboats and on shore cheered loudly. Each member of the Harvard crew also received a medal.

"**F.I. Pitman**,[1535] one of the umpires who presided at the ceremony, in his opening remarks said:

[1535] the stroke of Fairbairn's winning 1886 Cambridge Boat Race-winning crew and the 1886 Diamond Sculls Champion. See Chapter 15.

"'As all of you know, this is Independence Day, the anniversary of the date when America decided to be independent, and she has come forward today to show that the child has overtaken her mother in oarsmanship, The rowing on this occasion has been better than average. Any of the four semi-finalists ordinarily would have qualified for the finals.'"[1536]

"Only four times previously has the cup been taken out of the country, three times by Belgian crews and once by a New South Wales crew. That two visiting American crews were left in the contest for the cup today is a sore blow to British rowing men's pride, but the Harvard and Union boys all made themselves so popular among the rowing fraternity since their arrival at Henley that their final tussle evoked almost as much applause from English spectators as from transatlantic visitors.

"The papers are full of regrets over British defeats, but on the whole the tone of the comments shown none of the acerbity in distress which at one time led to Englishmen being described as sore losers. ***The Evening News*** [of London] may be cited as typical: 'At bottom, let us hope, we always remember we are sportsmen first and partisans afterwards. So at Henley one likes to think that the crowd, when it saw its favorites beaten, joined right heartily in enthusiastic greetings of the victors.

"'Unbroken British supremacy in sport would be a disaster, and the American victory can only make for good feeling throughout the world. We should welcome with generous hospitality all comers ready to try a fall with us on fair terms.'"[1537]

"An advertisement in ***The Times*** of 7 July said: 'In loving memory of British Rowing, which passed away at Henley on Saturday July 4th. Deeply lamented by many sorrowing followers, who hereby place their regret on record.'"[1538]

The "other" *Times*, that from New York, published an editorial (!) titled "America's Henley" the day after the final:

"It made little difference whether the Union Boat Club's crew of Boston, composed of Harvard men, or the regular Harvard crew won in the final race for the Grand Challenge Cup at Henley – the cup was for the first time wrested from the British grasp by Americans. But the regular crew's victory more than atones to its members for the narrow defeat on the American Thames by Yale.

"The tradition that a crack English crew can be beaten only by men who have stroked all their lives as the Englishmen do was broken by oarsmen, some of whom had never sat in a shell until they entered college. It is special training, not intuition or 'being born to it' or overconfidence that wins boat races.

"The Englishmen were overconfident, just as Americans have been overconfident in polo playing. The Roman Senator might wear his toga with a careless grace, but the dress and carriage of the athlete must be ever precise.

"The Leander Club might have learned this lesson in 1906, when the Grand Challenge Cup was carried off by the crew from the Club Nautique de Gand of Belgium, and in 1907, when another Belgian crew defeated a strong Leander crew in one of the heats.

"The advantage of the American training is not so much in its styles of rowing as in the group work of the men who learn to apply legs and bodies with

[1536] America's First Triumph, *Associated Press*, July 4, 1914

[1537] Harvard Oarsmen Capture Grand Challenge Cup, *The New York Times*, July 5, 1914

[1538] Dodd, *Henley*, p. 120

consistent rhythm from end to end of each forward impulse of the boat. They were victorious at Henley because they were 'better together.'"[1539]

Harvard Team Captain **Leverett Saltonstall** later became the Senior United States Senator from Massachusetts, but today the 1914 Harvard Henley crew is best known for the fact that when they got back together for their 50th Reunion row at the 1964 Henley Regatta, the spare oarsman still could not find a spot in the boat.

Film of that row gives us enough clues to reconstruct the technique Jim Wray had taught them.

Leverett Saltonstall
United States Senator

Given the dominance of Cornell crews in the first decades of the century, which was underlined to Jim Wray whenever Courtney could arrange a race with Harvard or Yale, and given Wray's professional background, with no connections to English Orthodoxy, it is not surprising that his 1914 crew rowed a Classical Technique concurrent *Schubschlag* stroke very much in the Ward-Courtney-Ten Eyck mold.

Geoffrey Page: "Harvard had been trained in a sculling technique by the Australian professional, Jim Wray. This was similar to that used by English professionals in the previous century, the blades being sliced in at the catch, the pressure of the water flicking them square. It was a technique that was carried over to Seattle by the Eton professionals and boatbuilders, the Pocock brothers,[1540] in the early 1900s."[1541]

Postscript

In 1915, Harvard fired Jim Wray after Guy Nickall's Yale crew won a second consecutive New London race. Nickalls didn't last much longer, so it would be another decade before Yale and Harvard entered the mainstream of American collegiate rowing history.

Jim Wray coached at Cornell from 1927 to 1936, winning the IRA in 1930.

[1539] Harvard Oarsmen Capture Grand Challenge Cup, *The New York Times*, July 5, 1914

[1540] See Chapter 45 ff.

[1541] Page, p. 43

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