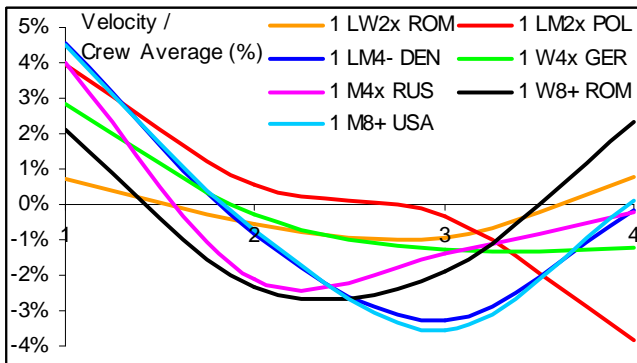
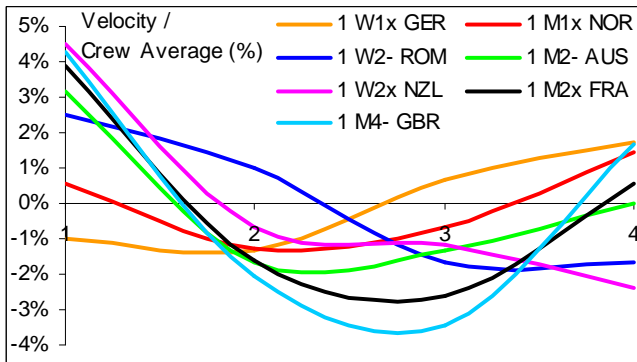


**Notizie**

I giochi della XXVIII Olimpiade sono appena finite ad Athene. Siamo stati testimoni di una dura competizione per le medaglie. Congratulazioni a tutti I vincitori! Speriamo che per gli altri equipaggi la biomechanica posso aiutare un pochino nel raggiungere i prossimi obiettivi.

**Forse sapevi che...**

✓ ...la strategia media dei winners di Athens Olympic games è stata: 2.9%, -1.0%, -1.6%, -0.1%. Questa è differente dalla media degli ultimi 12 years 3.1%, -1.1%, -1.8%, -0.1%. I due charts sotto mostrano la strategia degli equipaggi vincenti:



Si nota che la maggioranza dei vincitori effettuano i primi 500m 3-5% piu' veloce della media velocità sui 2000m. Abbiamo però, ben 4 outliers: entrambi, nel LW2x e W8+ Rumeni che iniziano la race molto lentamente rispetto agli altri winners. La strategiy inusuale utilizzata dai German W1x: -1.0%, -1.3%, 0.7%, 1.7%, la quale effettua la seconda parte 5.1s faster della prima.

✓ ...la minima variazione della velocità la notiamo dai singoli Bulgari e Estoni M1x: 0.70% e 0.71% rispettivamente. Among the winners the most even boat speed was achieved by ROM LW2x (0.87%), NOR M1x (1.21%) and GER W1x (1.42%).

✓ La piu' elevata variazione della velocità è stata nel GER M2-, M8+ and M4x (4.5-4.5%). Among the winners the most uneven boat speed è

stata registrata in GBR M4-(3.52%), USA M8+ (3.32%) e DEN LM4- (3.27%). Questo tipo di variazione procura perdite di circa 0.6s sui 2000m race (RBN 2003/12).

✓ ...sospettiamo che il vento non era unidirezionale durante le regate di Schinias, è questo ha influenzato le strategie. L'analisi delle tattiche di gara può essere utili, perchè mostra come i winners prendono il vantaggio RELATIVAMENTE agli altri.

La tabella mostra tipologia delle 12 tactics per ogni piazzamento. Ricordiamoci che i primi numeri nelle tattiche rappresentano i 500m piu' veloce, e i secondi è il piu' lento della sezione RELATIVAMENTE alla media velocità di tutti i competitors in gara. (RBN 2003/07)

Tactics	Place						Total
	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>	
1-2	1						1
1-3	1			2	4		7
1-4		1	1	6	4	5	17
2-1	1					1	2
2-3	1				1		2
2-4	1			1		3	5
3-1	1	3	1			2	7
3-2	1		1	2		1	5
3-4	2		1		1	1	5
4-1	2	4	6	1	2		15
4-2	2	3	3	2		1	11
4-3	1	3	1		2		7
<b>Total</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>84</b>

E' interessante notare che i winners utilizzano tutte le tattiche eccetto 1-4, che era la piu' utilizzata negli ultimi 12 years. La maggioranza dei winners (9 out of 14) ottengono il loro vantaggio nella seconda parte della gara. Questo evidenzia che il livello dei competitors, e nessuno può essere sorpreso psychologically dalla partenza e tutti gli equipaggi sono preparati alla lotta fino alla fine della regata.

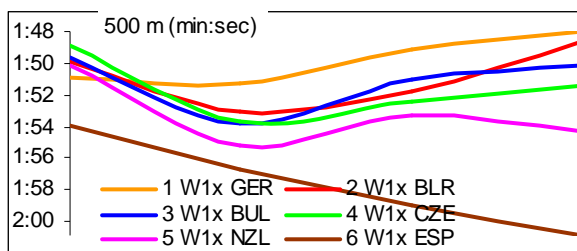
10 silver e 10 bronze medalists rispetto ai 14 ottengono il loro vantaggio nella parte finale (tattiche 4-1, 4-2, 4-3), con solo 5 winners che utilizzano la stessa. Questo conferma la nostra precedente conclusione: "Se gli crew risparmiano energia per gli ultimi 500m, essi hanno maggiore possibilità di vincere una medaglia, ma poche possibilità di vincere la medaglia d'oro."

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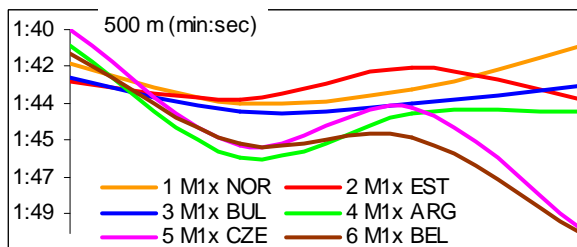
**Race strategy and tactics in rowing Finals A in the XXVIII Olympic Games in Athens.**

W1x



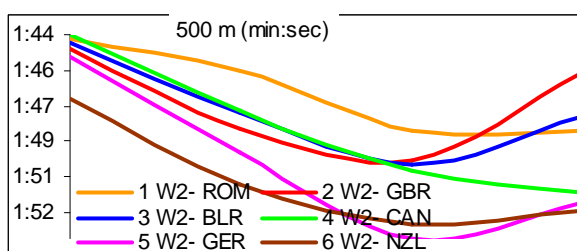
		Strategy				Var.	Tactics
1	GER	-1.0%	-1.3%	0.7%	1.7%	1.42%	4-1
2	BLR	0.8%	-1.9%	-0.8%	2.0%	1.76%	4-1
3	BUL	1.4%	-2.3%	0.1%	0.9%	1.64%	4-2
4	CZE	2.5%	-1.8%	-0.7%	0.2%	1.80%	1-3
5	NZL	2.8%	-1.7%	0.0%	-0.9%	1.97%	1-4
6	ESP	3.2%	0.8%	-1.2%	-2.7%	2.55%	2-4

M1x



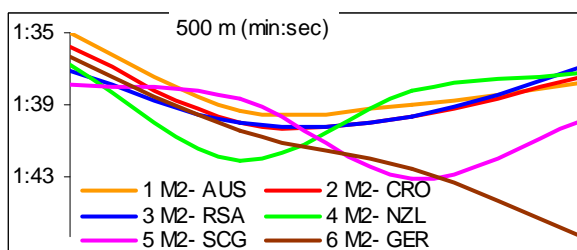
		Strategy				Var.	Tactics
1	NOR	0.5%	-1.3%	-0.7%	1.4%	1.21%	4-1
2	EST	0.2%	-0.6%	0.9%	-0.5%	0.71%	3-1
3	BUL	0.8%	-0.8%	-0.4%	0.4%	0.70%	4-1
4	ARG	2.9%	-2.3%	-0.3%	-0.2%	2.14%	4-2
5	CZE	4.6%	-0.8%	0.9%	-4.4%	3.73%	1-4
6	BEL	4.1%	0.0%	0.2%	-3.9%	3.29%	1-4

W2-



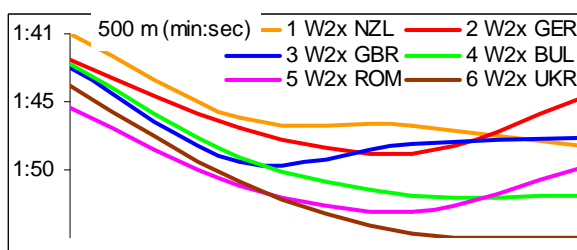
		Strategy				Var.	Tactics
1	ROM	2.5%	1.0%	-1.7%	-1.7%	2.07%	2-1
2	GBR	2.5%	-1.2%	-2.6%	1.4%	2.33%	4-2
3	BLR	3.1%	-0.2%	-2.5%	-0.3%	2.31%	4-1
4	CAN	4.3%	0.7%	-1.9%	-2.8%	3.21%	1-4
5	GER	4.9%	0.5%	-3.3%	-1.8%	3.58%	1-3
6	NZL	3.7%	-0.2%	-2.0%	-1.3%	2.53%	3-2

M2-



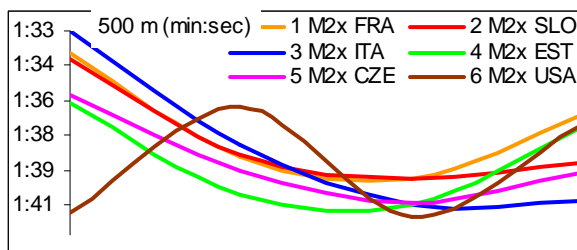
		Strategy				Var.	Tactics
1	AUS	3.2%	-1.7%	-1.4%	0.0%	2.22%	1-2
2	CRO	2.7%	-1.9%	-1.5%	0.9%	2.18%	4-2
3	RSA	1.5%	-1.7%	-1.4%	1.7%	1.83%	4-1
4	NZL	2.1%	-3.7%	0.4%	1.5%	2.59%	3-2
5	SCG	2.2%	1.3%	-3.4%	0.0%	2.44%	2-3
6	GER	5.7%	1.1%	-1.2%	-5.0%	4.45%	1-4

W2x



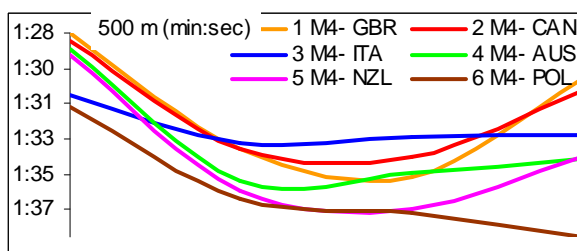
		Strategy				Var.	Tactics
1	NZL	4.5%	-0.7%	-1.2%	-2.4%	3.05%	3-4
2	GER	3.0%	-1.0%	-2.5%	0.7%	2.40%	4-1
3	GBR	3.7%	-2.0%	-0.9%	-0.6%	2.50%	3-2
4	BUL	5.5%	-0.2%	-2.4%	-2.5%	3.74%	1-4
5	ROM	3.6%	-1.0%	-2.4%	0.0%	2.58%	4-1
6	UKR	6.1%	0.2%	-2.8%	-3.0%	4.21%	1-4

M2x



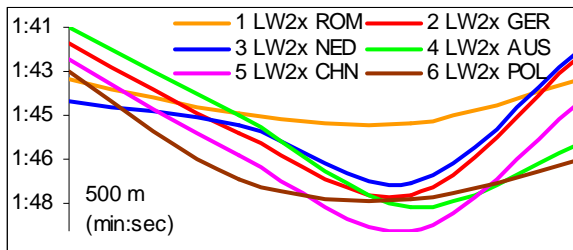
		Strategy				Var.	Tactics
1	FRA	3.9%	-1.6%	-2.6%	0.6%	2.86%	4-2
2	SLO	4.2%	-0.8%	-2.0%	-1.2%	2.80%	1-4
3	ITA	6.1%	0.1%	-2.9%	-2.7%	4.21%	1-4
4	EST	2.8%	-1.9%	-2.3%	1.6%	2.50%	4-2
5	CZE	3.4%	-0.5%	-2.1%	-0.6%	2.36%	3-4
6	USA	-2.3%	3.0%	-2.5%	2.1%	2.88%	2-1

M4-



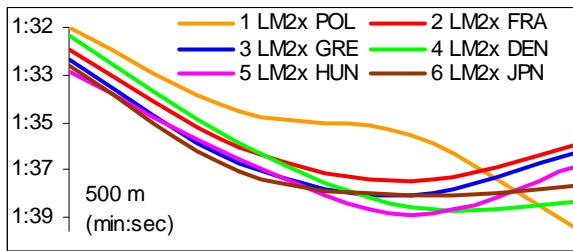
		Strategy				Var.	Tactics
1	GBR	4.3%	-2.1%	-3.5%	1.6%	3.52%	4-3
2	CAN	3.8%	-2.1%	-2.5%	1.0%	2.93%	4-2
3	ITA	1.8%	-0.8%	-0.5%	-0.4%	1.18%	3-1
4	AUS	5.0%	-2.1%	-1.7%	-1.0%	3.34%	1-4
5	NZL	5.4%	-1.9%	-2.8%	-0.2%	3.69%	1-3
6	POL	4.4%	-0.5%	-1.2%	-2.4%	2.97%	2-4

LW2x



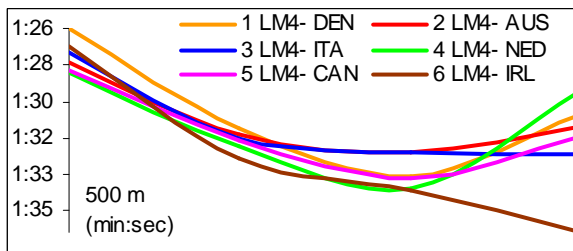
		Strategy				Var.	Tactics
1	ROM	0.7%	-0.5%	-0.9%	0.8%	0.87%	3-1
2	GER	2.4%	-1.0%	-3.3%	2.0%	2.69%	4-3
3	NED	0.5%	-0.4%	-2.5%	2.5%	2.07%	4-1
4	AUS	3.7%	0.3%	-3.1%	-0.7%	2.84%	1-4
5	CHN	3.0%	-0.7%	-3.4%	1.4%	2.77%	1-3
6	POL	3.1%	-1.0%	-1.7%	-0.3%	2.16%	1-4

LM2x



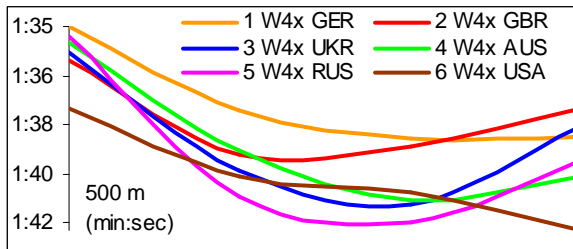
		Strategy				Var.	Tactics
1	POL	3.9%	0.6%	-0.4%	-3.8%	3.20%	3-4
2	FRA	3.2%	-0.6%	-1.9%	-0.5%	2.20%	4-1
3	GRE	3.2%	-0.8%	-1.9%	-0.3%	2.24%	4-2
4	DEN	4.4%	0.1%	-2.2%	-2.0%	3.06%	1-4
5	HUN	3.2%	-0.3%	-2.3%	-0.5%	2.29%	4-3
6	JPN	3.5%	-0.6%	-1.5%	-1.1%	2.31%	4-2

LM4-



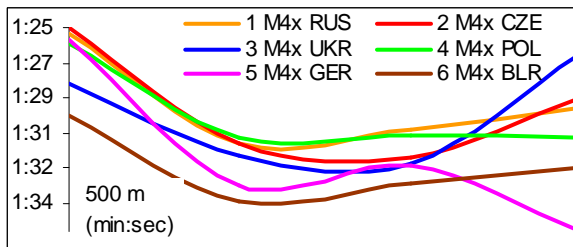
		Strategy				Var.	Tactics
1	DEN	4.6%	-0.8%	-3.3%	-0.2%	3.27%	1-3
2	AUS	3.0%	-0.8%	-1.7%	-0.4%	2.05%	3-1
3	ITA	3.9%	-0.7%	-1.4%	-1.5%	2.59%	3-4
4	NED	2.8%	-1.1%	-3.2%	1.8%	2.72%	4-1
5	CAN	3.2%	-0.5%	-2.4%	-0.2%	2.34%	4-1
6	IRL	6.0%	-0.1%	-1.7%	-3.7%	4.17%	1-4

W4x



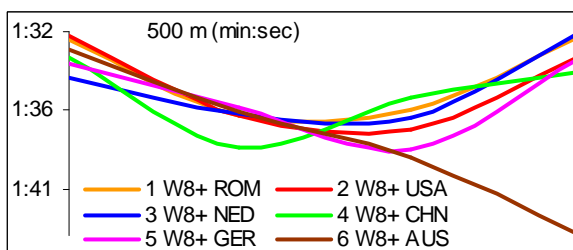
		Strategy				Var.	Tactics
1	GER	2.8%	-0.3%	-1.3%	-1.2%	1.93%	2-4
2	GBR	2.1%	-1.3%	-1.0%	0.3%	1.56%	4-1
3	UKR	3.2%	-1.1%	-2.3%	0.4%	2.36%	4-3
4	AUS	3.7%	-0.3%	-2.0%	-1.2%	2.54%	1-4
5	RUS	4.4%	-1.5%	-2.4%	-0.2%	3.00%	1-3
6	USA	2.5%	0.0%	-0.6%	-1.9%	1.82%	3-4

M4x



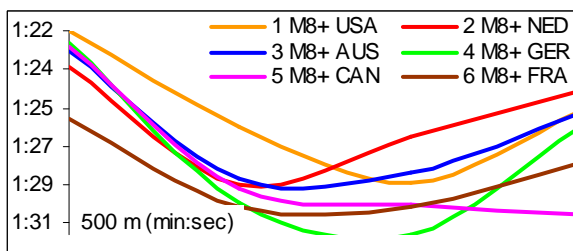
		Strategy				Var.	Tactics
1	RUS	4.0%	-2.1%	-1.4%	-0.2%	2.74%	3-2
2	CZE	4.5%	-2.0%	-2.7%	0.5%	3.27%	4-3
3	UKR	1.7%	-2.2%	-2.6%	3.4%	2.95%	4-1
4	POL	4.0%	-1.3%	-1.2%	-1.3%	2.63%	2-4
5	GER	6.6%	-1.6%	-0.5%	-3.9%	4.51%	1-4
6	BLR	2.8%	-1.8%	-0.9%	0.0%	2.00%	3-1

W8+



		Strategy				Var.	Tactics
1	ROM	2.1%	-2.3%	-1.9%	2.3%	2.50%	4-2
2	USA	2.9%	-1.8%	-2.5%	1.7%	2.64%	4-3
3	NED	0.5%	-1.6%	-1.8%	3.2%	2.34%	4-1
4	CHN	2.1%	-3.0%	-0.2%	1.3%	2.25%	3-2
5	GER	1.8%	-0.8%	-3.1%	2.2%	2.48%	4-3
6	AUS	5.2%	1.6%	-1.1%	-5.2%	4.37%	2-4

M8+



		Strategy				Var.	Tactics
1	USA	4.5%	-0.7%	-3.5%	0.1%	3.32%	2-3
2	NED	2.8%	-3.3%	-0.9%	1.6%	2.71%	3-1
3	AUS	4.2%	-2.5%	-2.2%	0.8%	3.14%	4-2
4	GER	5.9%	-2.6%	-4.1%	1.3%	4.47%	1-3
5	CAN	6.3%	-1.2%	-2.0%	-2.6%	4.16%	1-4
6	FRA	2.9%	-1.7%	-1.7%	0.6%	2.18%	3-1