

returns is apparent. The preponderance of errors in the later innings fits the established picture of increasing errors in the presence of fatigue.

Another sample illustrates how a group improves through application and conditioning. Charted in Figure 2 is the composite curve first produced by a squad of University of Pittsburgh varsity athletes; similar curves are produced in the fifth and fourteenth tests; and the curve of improvement which shows the progress made in fourteen weeks. Toward the end of the series there were individuals who produced 100% application curves. The aggregate of all days for all individuals and groups helped to prove the pattern of fatigue curves of the physiology laboratory tests. The italic numbers indicate errors of application.

Phys. Ed.	Class No.	Inning 1	2	3	4	5	6	7	8	9	10	Appli- cation
*1st day	9	214	183	169	172	167	159	155	157	155	152	70%
2nd day	12	313	303	288	256	264	262	247	250	252	233	60%
3rd day	9	256	239	232	220	218	211	210	206	199	200	90%
4th day	13	379	365	345	323	325	315	300	297	289	274	90%
*5th day	15	496	466	451	421	407	409	371	374	359	337	80%
After Vacation												
1st day	13	356	353	338	323	331	313	304	297	282	276	90%
2nd day	6	181	173	171	164	161	159	153	145	137	135	100%
3rd day	13	407	395	380	363	356	341	330	321	323	309	90%
4th day	10	331	311	309	291	289	285	276	264	263	253	100%
5th day	11	382	363	364	341	332	324	312	302	310	294	80%
6th day	9	294	294	271	271	266	265	257	243	239	224	80%
7th day	11	370	367	356	335	331	324	321	309	304	295	100%
8th day	12	407	407	382	368	375	356	342	354	329	320	70%
*9th day	13	451	434	420	409	391	384	376	365	357	309	100%
944 28161 27445 25617 25730 25059 24413 24153 23947 23660 23389 90%												

* Plotted in fatigue curves on Figure 2.
Average daily Production plotted in the curve of Improvement.

Totals by innings of all days show a 90% Application Curve.

It does not appear entirely a coincidence that the most successful athletes in the foregoing series had the best fatigue curves in production and application. Further the best athletes appeared to improve better than the less successful athletes.

Three particular athletes will be cited by name in the above series. Cosgrove, a swimmer; Rhoades, a polevaulter; and Guadanangi, a catcher, produced erratic curves at first. Later they produced better curves with 100% Application. The first two broke previous records after they had reached the higher quality of fatigue curve. The last developed better than had been anticipated by himself or coach. As the quality of their fatigue curve dropped, so did their other performance. This is not the place for philosophical discussion, and for the present we shall merely state that those