Score Analysis Explains Fractional Par Basis

By WILLIAM B. LANGFORD

The objection advanced by many golfers to the suggestion that fractional par is a more accurate measure of scoring probability and a fairer basis for course rating and handicapping is that a hole cannot be played in a fraction of a stroke. This reaction indicates a misconception of the real meaning of par. Par is the probable average best score on any hole made by experts playing under normal conditions, disregarding the element of luck, and is thus normally fractional.

Whole stroke par must necessarily classify together holes which actually vary almost a stroke in difficulty. For instance, our present whole stroke par rates 255 and 445 yd. holes as equal at par 4; whereas the 255 yd. hole is really a tough 3 and the 440 yarder an easy 5.

This unfair classification has two evil effects:

First; it discourages the construction of many excellent holes because they are easy or hard pars and result in runaway tournament scores and unjust handicaps. Holes on which score is uncertain are obviously splendid fighting grounds, the hardest to make in any given figure and the best on which to award handicap strokes. A hole repeatedly made in the same number of strokes is certainly easy and comparatively uninteresting. To avoid building the finest type of hole because of a faulty standard of measurement is unintelligent and robs the game of vital interest.

Second; by focusing attention on whole stroke par, players become unduly score conscious. As par is rightly a measure of expert play, the fact that a player cannot score many pars on a round does not necessarily mean that par is wrong but just that the player is not an expert. Par is not an easy goal and should only be gained by topnotch performance. In addition, many par scores are the result of lucky, not accurate play, are undeserved and give no real satisfaction.

Week-end golfers and those whose age exceeds 50 could save many moments of agony and even score better if they concentrated on their shots and derived their real thrills from sound strokes rather than from what the pencil records. Maybe, if fractional par prevailed, more golfers would take up foursome instead of four-ball play and enjoy faster, less strenuous recreation and the pleasure of real partnership competition.

From Bogey to Par

"Bogey" was the first attempt to establish a measure of scoring probability for golf courses by which players could judge the excellence of their games and from which handicaps could be readily calculated. The mythical Col. Bogey toured the links with the old "guttie," playing an even game without mistakes or miracles, good luck or bad. His score was always 3 on holes up to 200 yds., 4 on holes ranging from 200 to 350 yds., 5 on 350 to 500 yd. holes and 6 on "Long Toms."

With the advent of the rubber cored ball, bogey fell out of step and par was adopted in its place. Its distance attainment schedule is 250 yds. for the tee shot, 195 yds. for the second stroke and 155 yds. for the third; setting par at 3 for holes up to 250 yds. length, 4 for holes of between 251 and 445 yds., 5 for 446 to 600 yd. holes, and 6 for those over 600 yds.

Today, improved greenkeeping methods, better implements and sounder playing technique have again lowered the scores of experts and, in fact, of all golfers to such an extent that par, like its predecessor bogey, is also out of step and needs revision badly.

Par an Inaccurate Gauge

Par now in use is an inaccurate gauge for two reasons: First; as it presents a length attainment sequence entirely at variance with contemporary or even past performance; and second, it is too coarse a measure in classifying as equal holes which are nearly a stroke apart.

Consider first the faulty length sequence. Par now sets up 250 yds. as the average limit of experts' well hit tee shots and

195 and 155 yds. as the maxima of first-class second and third shots. While the distance attainment average will drop progressively with an increase in the number of strokes taken, it will not fall off at the rate set by today's par schedule. Two hundred fifty yds. is approximately the top-notcher's average distance expectancy from the tee, but one who can do that well with his driver will certainly average better than 195 and 155 yds. on his second and third strokes. I suggest a progression of 240-225-215-210 yards to replace the series of 250-195-155 now in use.

I have based my proposed progressive fractional par on this sequence and check tests on the scores made in many major competitions prove its accuracy.

On the second defect, remember that par, properly considered, is the average score of first flight players performing flawlessly under normal conditions. A whole stroke par score on any hole, if not a setup, is either easy or hard to get, therefore, to be uniform, par should usually vary fractionally from a whole figure.

A whole stroke par can be set up for competitive purposes, but a fractional par is necessary to rate holes and courses closely and to provide a standard sufficiently accurate for the calculation of handicaps which will be fair on all courses.

No mechanical par table based on length alone can be a final measure of score since many other factors such as turf condition, ground speed, surface warp, hazard locations, etc., make the score vary as much as four-tenths of a stroke per hole from a length-based setup. The effect of these other factors is variable and inseparable, but can be measured collectively by an analysis of the best competitive scores made during a season's play.

Length is by far the greatest cause of score variation and the only factor lending itself to mechanical treatment. A length-based fractional par can be predetermined mathematically and, when modified by an adjustment indicated by careful score analysis, become a close measure of playing ability and hole value.

An assumption that 240 yds. is the experts' average expectancy from the tee and 300 yds. his maximum average hope will set up 240 yds. as the longest positive 3 par hole and 300 yards as the shortest positive 4 par hole. Hence, the mean distance, 270 yards, is a logical length to adopt for par 3.5 in a fractional arrangement.

Similarly, referring to the proposed progressive sequence of 240-225-215-210, 465 yards — the sum of 240 and 225, the experts' average best first and second shots — is the length of the shortest positive 5 par hole and 382.5 yards, the mean between 300 and 465, the logical par 4 distance.

As 60 yards is the allowance for extra distance on average 240 yard shots so, by the following ratios: 240 is to 60 as 225 is to 56.25 as 215 is to 53.75 and as 210 is to 52.50, it thus is determined that 56.25 yards should be the commensurate allowance for extra distance on the second shot, and 53.75 and 52.50 yards proportionate average for the third and fourth strokes, and the same reasoning which established par 3.5 and par 4 distances will develop this table of control lengths for the fabrication of a fractional par schedule:

LENGTH PROGRESSION

Number of Strokes	1 — 2 — 3 — 4
Shot Length	240 — 225 — 215 — 210
Total Distance Progression	240 — 465 — 680 —

EXTRA LENGTH PROGRESSION

65 — 60 — 56.25 — 53.75 — 52.5

Average	32.5	yards	:	2.5 Par
O plus 65 :	65	yards	: Min. 3 Par	
Average	152.50	yards	:	3 Par
1st Total Distance:	240	"	: Max. 3 Par	
Average	270	"	:	3.5 Par
240 plus 60 :	300	"	: Min. 4 Par	
Average	382.5	"	:	4 Par
2nd Total Distance:	465	"	: Max. 4 Par	
Average	493.125	"	:	4.5 Par
465 plus 56.25 :	521.25	"	: Min. 5 Par	
Average	600.625	"	:	5 Par
3rd Total Distance:	680	"	: Max. 5 Par	

By interpolation between the control distances thus established we obtain the following Progressive Fractional Par:

CONDENSED TABLE

PAR	DISTANCE	PAR	DISTANCE
2.50	30 to 38 yds.	3.90	355 " 365 "
2.55	39 " 50 "	3.95	366 " 376 "
2.60	51 " 62 "	4.00	377 " 388 "
2.65	63 " 74 "	4.05	389 " 399 "
2.70	75 " 86 "	4.10	400 " 410 "
2.75	87 " 98 "	4.15	411 " 421 "
2.80	99 " 110 "	4.20	422 " 432 "
2.85	111 " 122 "	4.25	433 " 443 "
2.90	123 " 134 "	4.30	444 " 454 "
2.95	135 " 146 "	4.35	455 " 465 "
3.00	147 " 158 "	4.40	466 " 476 "
3.05	159 " 170 "	4.45	477 " 487 "
3.10	171 " 181 "	4.50	488 " 498 "
3.15	182 " 193 "	4.55	499 " 509 "
3.20	194 " 205 "	4.60	510 " 519 "
3.25	206 " 217 "	4.65	520 " 530 "
3.30	218 " 228 "	4.70	531 " 541 "
3.35	229 " 240 "	4.75	542 " 552 "
3.40	241 " 252 "	4.80	552 " 562 "
3.45	253 " 263 "	4.85	563 " 573 "
3.50	264 " 275 "	4.90	574 " 584 "
3.55	276 " 286 "	4.95	585 " 595 "
3.60	287 " 298 "	5.00	596 " 605 "
3.65	299 " 309 "	5.05	606 " 616 "
3.70	310 " 320 "	5.10	617 " 627 "
3.75	321 " 331 "	5.15	628 " 637 "
3.80	332 " 343 "	5.20	638 " 648 "
3.85	344 " 354 "	5.25	649 " 659 "

WHOLE STROKE PAR

Par 3 — to 244 yds.
Par 4 245 " 469 "
Par 5 470 " 684 "

Fractional Par Comes Close

To check the mathematical theory of the fractional par determination which I have here presented I checked with actual performances in the 1936 National Open at Baltusrol, the 1937 National Open at Oakland Hills, the 1939 National Open at Philadelphia CC, the 1934 $5000 Open at Louisville (Ky.) CC and a qualifying round at the 1936 Public Links tournament at Bethpage.

It will be noticed that in the table on play at the Philadelphia CC, on nine of the holes the low 202 players in the 1939 National Open had an average score under fractional par and on the other nine were above fractional par, but that the difference between actual performance and fractional par for the entire course was only 5 per cent.

There is a possibility that the difference was smaller or greater, due to shifting of the tee markers and cups. In this connection, let me suggest that markers be permanently set beneath the range of mower blades at the spots on tees from which scorecard distances to the centers of greens are measured.

The tables:

1939 U.S.G.A. OPEN CHAMPIONSHIP — PHILADELPHIA C.C.

AVERAGE SCORE (LOW 202 PLAYERS)

HOLE	LENGTH	FRAC. PAR	NET	GROSS	NET DIFF.
11	169	3.07	3.04	3.09	—.03
7	191	3.16	3.05	3.10	—.11
13	206	3.23	3.29	3.34	+.06
2	234	3.35	3.31	3.36	—.04
16	328	3.76	3.83	3.88	+.07
9	350	3.86	4.02	4.08	+.16
17	363	3.91	3.93	3.98	+.02
3	384	4.01	4.07	4.12	+.06
14	394	4.05	4.09	4.14	+.04
15	421	4.17	4.04	4.09	—.13
5	425	4.19	4.20	4.25	+.01
6	447	4.29	4.21	4.26	—.08
1	450	4.31	4.26	4.31	—.05
4	453	4.32	4.20	4.25	—.12
10	454	4.32	4.29	4.34	—.03
8	479	4.44	4.43	4.48	—.01
12	480	4.44	4.53	4.58	+.09
18	558	4.80	4.92	4.98	+.12
		71.68	71.71	72.63	0.05

(Turn to page 114 for table showing variation of net scores from fractional par on varying length classes of holes in five major competitions.)

"DOC" IN NEW WILSON FILM

Wilson Sporting Goods Co. has a new 16 mm. black and white sound film, "Golf Doctor" covering high spots in career of Dr. Cary Middlecoff who laid away his dentistry tools and has been filling cavities in golf greens with Wilson golf balls to good profit. It's a very entertaining instruction film. Details of rental on request from nearest Wilson office.

Vol 23—No. 4

APRIL, 1949

CONTENTS

GOLFDOM

THE BUSINESS JOURNAL OF GOLF

GOLFDOM, The Business Journal of Golf. Published monthly, except November and December. Subscription rate—$2.00 per year, Canadian and Foreign $2.50. Herb Graffis, Editor; Joe Graffis Advertising and Business Mgr.

Publication Offices—407 So. Dearborn St., Chicago 5; Phone Harrison 5941. Eastern Representative—Albro Gaylor, 20 Vesey St., New York 7; Phone, Cortland 7-1668. Pacific Coast Representatives—Roy M. McDonald & Co., 639 S. Wilton Pl., Los Angeles; Phone, Drexel 2590 . . . 564 Market St., San Francisco; Phone, Yukon 6-0503 . . . Terminal Sales Bldg., Seattle, Wash.; Phone, Main 3860. Printed in U.S.A.

(Continued from page 48)

VARIATION OF NET SCORES FROM FRACTIONAL PAR ON VARYING LENGTH CLASSES OF HOLES IN FIVE MAJOR COMPETITIONS

Variations in 1/100 of a stroke	LENGTH CLASS 152 yds. & under		153 yds.–270 "		271 yds.–382 "		383 yds.–493 "		494 yds.–602 "		TOTAL		
	+	−	+	−	+	−	+	−	+	−	+	−	GT
.00 to .05	1		1	3	4	1	8	10	2	1	16	15	31
.06 " .10	1		1	2	3		7	7	2	1	14	10	24
.11 " .15	1	2	2	6	2		2	5	3		9	14	23
.16 " .20				2	3		1	2			4	4	8
.21 " .26					1			1	2		3	1	4
+ & − Totals	2	2	4	13	13	1	18	26	9	2	46	44	
No. of holes of each class analyzed	4		17		14		44		11				90

On 31 out of 90 holes the variation is 0.05 or less (34%)
On 55 out of 90 holes the variation is 0.10 or less (61%)
On 78 out of 90 holes the variation is 0.15 or less (87%)
On 86 out of 90 holes the variation is 0.20 or less (96%)
The greatest variation is 0.26